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# THE EDINBURGH MEDICAL AND SURGICAL JOURNAL:

EXHIBITING

A CONCISE VIEW

OF THE

LATEST AND MOST IMPORTANT DISCOVERIES

IN

MEDICINE, SURGERY, AND PHARMACY.

1807.

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THE

EDINBURGH

MEDICAL & SURGICAL JOURNAL.

1. JAN. 1807.

# PART I.

## ORIGINAL COMMUNICATIONS.

### I.

### *Case of Extirpation of the Eye.* By Mr W. MUDD, Surgeon, Hadleigh.

THOMAS HALSEY, 58 years of age, in the month of April 1794, received a violent blow upon his left eye. The pain which it occasioned subsided in a short time; but vision, becoming gradually more and more indistinct, was entirely destroyed by the October following. In the month of April 1795, whilst at his work, his eye burst in the anterior part of it, and discharged a considerable quantity; this was preceded by considerable pain, but he did not recollect any perceptible enlargement of that organ. From that time he became easy, and continued well till November 1797, when the pain returned, and confined him from his labour eight weeks; during three of which, such was the torture he endured, he did not enjoy one hour's comfortable sleep. From this period, except slighter attacks, which now and then returned, and continued sometimes a week, sometimes less, he continued tolerably well until about Christmas 1803, when the eye became inflamed, painful, and swelled; this, after a short time, considerably subsided, but did not entirely leave him. In the beginning of May 1804, the pain returned with greater severity, and the eye gradually increased in size, till the time of the operation, when it had acquired the size of a middle-sized lemon.

In the middle of September I first saw him; the eye-ball was very much enlarged, and protruded beyond the verge of the orbit; there was considerable hardness in the tumour; the vessels of the *tunica conjunctiva* were extremely turgid; and the patient complained of excessive pain. In a case like this, no advantage could be expected from external applications, or internal remedies. I therefore informed him, that extirpation was the only resource; but advised an opening to be made into the tumour first, as I thought I could perceive an obscure fluctuation. In the beginning of December, he put himself under my care; he informed me that poultices, fomentations, lotions of vitriolated zinc, &c. had been used with perseverance, but without any good effect; a puncture had also been made into the tumour, but with no better result, nothing being discharged but pure blood. The eye had evidently increased in size since I saw him in September; the vessels of the *tunica conjunctiva* had become more turgid; and that membrane, being very much thickened, presented a fungated appearance, covering the whole anterior part of the eye; the *palpebræ* were very much distended; the duplicature of the *tunica conjunctiva*, between the upper palpebra and the globe of the eye, was entirely inverted, and there was a small discharge of pus from the inner *canthus*. In consequence of the great pressure of the tumour upon the twig of the first branch of the fifth pair of nerves, which passes through the *foramen orbitarium superius*, the integuments of the forehead, and the parts which it supplies had become numb; pains frequently darted through the tumour in different directions; and he complained particularly of one, shooting to, and in the course of the coronal suture. The right eye had become much affected, there was a considerable cloudiness in the humours, and impatience of light; he was not able to distinguish letters, even with the assistance of spectacles; and an attempt to view an object elevated above a right angle with his body, was invariably succeeded by dizziness, which endangered his falling. For a considerable time, also, he had not been able to bear the admission of the air into the *meatus auditorius externus*, which constantly produced an uneasy twitching sensation, which compelled him to keep it covered. Pressure upon the nose gave considerable pain; and he said there had been a discharge from the nostril of the diseased side. His sufferance from pain was excessive, especially in the night, the greater part of which he generally passed without the least interval of ease, till the pain somewhat moderating, sleep afforded him a temporary oblivion of his sufferings. The inefficacy of the means which had so recently been applied for his relief, strongly confirmed my former opinion; and, to strengthen the patient's belief of the necessity of the operation, as well as for my own satisfaction in a high and indisputable authority, I recommended him to Dr Drake of Hadleigh. The operation was then determined upon, to which the patient readily consented, observing, that no temporary sufferance would shake the firmness of his resignation to whatever means afforded a prospect of mitigating his present sufferings.

December 19th 1804. Having prepared the necessary instruments, dressing, &c. the patient being properly seated, in the presence of Dr Drake, and the medical friends who kindly gave me their assistance, I proceeded to the operation. To avail ourselves of the advantage of reducing the size of the tumour, by evacuating some fluid which might possibly be contained, I began by making a puncture in the most depending part, but nothing followed but a slight effusion of blood from the divided vessels; a broad ligature was next passed through the centre of the tumour, to assist in drawing the parts forward. I then proceeded to dissect out the diseased parts with a small scalpel. Having divided the *tunica conjunctiva*, connected with the upper palpebra, the diameter of the tumour was found to exceed that of the orbit so much, that its bony edge could not be felt. The subsequent part of the operation became extremely difficult and tedious. Every particle of fat had been absorbed; the muscles, coats, and humours of the eye, were one confused mass of disease, connected extensively by morbid adhesions to the periosteum; in short, the whole orbit was literally crammed with a confused mass of disease. Under such unfavourable circumstances, the only object was to remove the diseased parts, without injuring the bones, and to leave a thin covering for them in those places where the periosteum was implicated in the disease. This, from the firmness of the tumour, and its strong connexion with the periosteum, was a task of the greatest difficulty. Upon inspecting the orbit, when the tumour was removed, a small portion was found to adhere to the periosteum at the bottom, of this as much as possible was removed; the hemorrhage, which had not been great, was suppressed by the application of thin pieces of sponge, with which the orbit was filled; soft lint was applied to the eye-lids, and the whole covered with a plaster of emollient ointment. The patient then took thirty drops of laudanum in a draught of water, and went to bed. The poor man supported the operation, which was long and painful, with the greatest fortitude, and without the least tendency to syncope. Upon examining the tumour, not a vestige of the organization of the eye remained; it was a confused mass, considerably vascular, of a livid colour, and in consistence resembling, but more spongy than that of liver.

I saw him in the evening,—complained of chilliness after the operation; pain not severe; pulse 70, rather full; slight tumefaction beginning to appear on the eye-lids, and parts surrounding the orbit; considerable oozing of blood. He took the following pills:

℞ Opii purificati gr. ij.
Calomel pp. et
Pulv. jalapæ ana gr. v.
Cum syrupo fiant pilulæ ij hora somni sumendæ.

20. Had as comfortable a night as could be expected, having slept several hours; pain moderate; pulse full and somewhat irregular; slight heat and thirst; tumefaction increasing; the oozing of blood had diminished and become serous. Took at bed-time a draught, containing thirty-six drops of laudanum.

21. Had a tolerable night; says the pain bears no comparison with what he had felt for many months before the operation; pulse under 70, and not so full as yesterday; the swelling had extended to the eyelids of the right side, and it now occupied part of the forehead; the left cheek, and temple; suppuration had begun in the eyelids; as he had had no motion, he took the following pills:

℞ Calomel pp. gr. v.
Pulv. jalapæ gr. xv.
Syrupi q. s. Fiant pilulæ iv, quarum sumantur ij statim, et repetantur, si sex horis elapsis, non subducatur alvus.

The sanguineous discharge from the orbit had nearly ceased, and the parts were fomented with a decoction of poppy-heads.

22. The pills had produced one motion; says he had enjoyed a more comfortable night than he had during the last seven months; pulse 60 and regular; tongue somewhat furred; swelling of the eyelids of the right side had considerably subsided; pain trifling; lips and gums swelled, but not painful; suppuration beginning within the orbit. Took at bed-time the opiate with the purgative.

23. Had passed a good night, free from pain and fever; swelling subsiding; had had two evacuations by stool; considerable fœtor in the discharge; repeated the opiate at bed-time.

24. Comfortable night, free from pain and fever; swelling greatly subsided; repeated the opiate at bed-time.

25. A fit of coughing had brought on a slight discharge of blood; pulse somewhat increased in frequency and intermitting; in other respects much as yesterday; the dressings came away easily; I filled the orbit with dry lint, and applied a plaster of mild cerate; omitted the opiate, and took the bark three or four times in the day.

26. Swelling rapidly abating, which now occupied only the eyelids; the fœtor had greatly diminished; removed the dressings, and lightly touched some parts with the lunar caustic, which produced no pain; his pulse had increased to 84; as he had had diarrhœa, he took at bed-time two grains of opium.

27. Pulse had fallen to 70, and regular; dressed as before; swelling nearly vanished; repeated the opiate at night.

28. Night comfortable; pulse as yesterday; free from pain and fever; swelling entirely subsided; dressed in the same manner, and repeated the opiate.

29. Much as yesterday; continues the bark, and takes common diet, with a proper share of animal food and fermented liquor; repeated the opiate at night.

30. Had a good night; the fœtor of the discharge gone off; the orbit clean, from every part of which granulations, apparently healthy, are shooting up; dressed with dry lint, and a powder of equal parts of bark and nitre.

31. Sat up yesterday and took a hearty dinner; free from pain; and enjoys comfortable nights without the opiate.

1805. January 1. Strength and appetite rapidly returning; granulations rather spongy, but secrete an apparently healthy pus, although there is now and then a discharge of an offensive sanies. The strength and sight of the right eye greatly amended, the humours of which have from day to day become clearer; and he can now, with the assistance of common spectacles, read in a small print. He enjoys a great flow of spirits, and laments that the operation was not done before.

Henceforth no particular circumstances occurred; the wound was dressed daily with different applications, which, by their astringency, might tend to strengthen the granulations, such as powder of bark, myrrh, rhubarb, &c. successively changed, according to circumstances. Although an apparently healthy pus was generally secreted, yet a few drops of an offensive sanious fluid would sometimes distil from the parts; and, notwithstanding the constant use of applications to resist their luxuriance, the granulations were in places large and spongy. They ultimately filled the orbit; and the skin from the superior palpebra, the tarsus of which had sloughed away, extending over the newly formed parts, united with the inferior palpebra. Thus was the wound completely healed, and the poor man, who constantly evinced the most lively sensations of gratitude, was again enabled to employ himself in the various branches of husbandry.

For some time things remained in a quiescent and flattering state, but it was not long before symptoms of morbid action manifested themselves; for a gradual enlargement of the parts took place, which was accompanied now and then, (as he described it) with that sensation which a part recently healed experiences from the effects of cold. On the 30th of June, I was desired to visit him; I found the parts about the orbit affected with considerable inflammation, attended with *pyrexia* and other febrile symptoms. These, together with the inflammation, disappeared in a few days, and he was again enabled to return to his labour. I saw him a few weeks after, and he informed me, that he had experienced a pain within the orbit, which returned every evening, lasting generally an hour or two, after which it abated, and he enjoyed undisturbed sleep during the rest of the night. The swelling of the parts had also increased, and the veins of the superior palpebra had become varicose. From this period the pain increased by degrees, but was, in its greatest severity, so tolerable, that it did not prevent him from working, until Saturday the 30th of November. I saw him on Monday the 2d of December, he informed me that he was then much easier, but that he had suffered much during Saturday and Sunday. There was a great swelling protruding from the orbit, in which there was an evident fluctuation; coma, apoplectic stertor, and other symptoms of pressure on the brain supervened. The tumour was opened, from which was discharged, a quantity of a black grumous matter. He continued in a state of stupor till the night of Wednesday, December 4th, when he expired, having, with the exception of a few days, lived a year from the time of the operation; and having, excepting also one week in the month of June, applied himself uninterruptedly to various branches of agricultural labour, within five days of his dissolution. I obtained permission, and intended to examine the state of the brain, for which purpose Dr Drake did me the favour to accompany me; but the head, face, and neck were so swollen, so surcharged with blood, and putrefaction had so far advanced, that there was no probability of a profitable investigation. I therefore only examined the state of the orbit. Upon removing the integuments, the orbit was partly filled with a black, grumous, offensive fluid, which being cleared away, I removed all the contents so as to expose the state of the bones. In the orbitar process of the *os frontis* was a hole, large enough to admit the point of the little finger, through which the fluid from the orbit had escaped and pressed upon the brain. Occupying part of the orbitar processes of the *os sphenoides* and *os malæ*, and a small portion of that of the *os frontis*, was another hole, nearly as big as a shilling, through which were seen fibres of the temporal muscle. The *os planum* was perforated in several places, and in many the bones were so thin and tender, as to give way to the slightest touch. The anterior and inferior part of the orbit, formed by the orbitar process of the *os maxillare*, was separated from the *antrum Highmorianum* only by the membrane which lines the latter; and a probe being passed into that cavity, a quantity of fœtid gas escaped.

A morbid state of the bones had doubtless obtained previous to the operation, for the occasional discharge of a fœtid sanies from the wound, the loose and spongy state of the granulations in some parts of the orbit, the long duration of the disease, and the extent to which caries was found to have taken place, upon examination after death, all concur in favour of that opinion. From a retrospect of this case, it evidently appears, that, had the operation been performed before the disease had arrived to so deplorable an extent, whilst the morbid parts remained unconnected with the periosteum, there would have been every prospect of complete success. Even in this case, the circumstances of which rendered it so truly hopeless, and which, could they have been foreseen, might have deterred us from the operation, resulted the most speedy and signal relief; and if the operation did not prolong the patient's life (which there is every reason to suppose it did), it afforded so happy an alleviation of his sufferings, that he was amply rewarded for the temporary sufferance from the operation, by the comparative comfort and pleasure which sweetened the remnant of his existence. The result of this case places in the most luminous view, and enforces, in the most cogent and pointed terms, the necessity of an early performance of the operation in cases of this kind. Where there is a great and unusual enlargement of the eye, accompanied with a progressive deterioration of symptoms threatening *carcinoma*, or other dangerous disease of that organ, if there be reason to suspect a deposition of pus, or other fluid, a puncture may be made into it with safety and propriety. In such a case, its evacuation would, in all probability, give immediate relief. If, on the contrary, no fluid follows, upon a sufficient opening being made, and the humours be found to have a denser consistence than natural, the enlargement may be considered to proceed from the extension and multiplication of morbid vessels, and the necessity of extirpation becomes sufficiently obvious.

This has been considered as an operation highly dangerous; and, from the proximity of the diseased organ to the brain, and its immediate connexion therewith, by the optic nerve, &c. we might, with apparent reason, infer a great probability of danger; but the result of those cases on record, which have occurred to my notice, seems to justify a different conclusion. The subject of that case recorded by Martin Bogdanus, in which the method of extirpation involved less determinate injury to the optic nerve, and other connecting parts, than the modern method of excision, recovered without inconvenience. "Ægro apte collocato, lithotomum filum per oculum læsum jussi traducere, confestim separato oculo ab adnata in utroque angulo, cultello Fabricii nostri cent. 1. obs. 1. arrepto orbitam profunde circinaret, *et oculum extemplo cohleari ad id confirmato eradicaret.*" Observat. Medicæ ad Bartholinum, vide Michaelis Lyseri Cult. Anatom. p. 210. In the greater number of cases the operation was attended with success; in none has it failed to give manifest relief; and in this, the history and circumstances of which I have now related, the progress of a merciless disease was arrested, and a source of pain and irritation cut off, under the extending ravages of which the patient would have lingered, a most afflicted sufferer, till death had closed his miserable existence.

*Hadleigh, Suffolk,* 14*th Aug.* 1806.

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## II.

## *Cases of Preternatural Pulsation in the Abdomen.* By J. A. ALBERS, Physician in Bremen.

A GIRL, twenty-four years of age, who had almost always enjoyed good health, one evening, while looking out at the window, fell back senseless on the floor. That morning her menses had appeared, and they continued to flow naturally during the whole period of her disease. As soon as she came to herself, she felt a desire to go to stool, and discharged a black pitchy matter, and again fainted. These symptoms continued during the whole night; and next morning, when I was called, I found her much debilitated, with her cheeks and lips pale, and scarcely able to whisper an answer to my questions. Her respiration was laborious; pulse considerably small and quick, but somewhat hard; tongue clean; thirst great; and appetite entirely gone. I was also told by her parents, that, for some days past, she has been constipated. In the evening my patient was in the same state, except that she had evacuated much of the black matter already mentioned, and had fainted at each discharge.

Next morning, at five o'clock, I was suddenly called to her, as she was believed to be dying. She was extremely exhausted; and the fainting fits succeeded each other almost without interruption. She was only able to tell, in an under voice, that she felt a palpitation in her belly. When I laid my hand upon it, I was in reality astonished at the violent pulsation, which could be observed from the xyphoid cartilage to below the navel, that is, almost to the place where the aorta divides into the two iliacs. When three fingers were laid across the pulsating body, the stroke could be felt with each of them. The pulsation of the heart was weaker than natural, the pulse at the hand extremely small, but not quicker than the preceding day, and not isochronous with the pulsation in the abdomen. I must confess, that at first I took this pulsation for an aneurism, which was also the opinion of Mr Meyerhoff, an able surgeon. At noon, I requested Dr Wienholt to visit the patient, who immediately said, that he doubted if the pulsation proceeded from an aneurism, because he remembered to have read some similar cases in Morgagni. At this time the pulsation was not half so strong as in the morning, and indeed never was so again. He advised me to go on with the evacuating remedies and clysters already prescribed, but to combine some opium with the former. Under the use of these remedies, in a few days the pulsation and oppression at the breast were diminished. The stools at first had the colour of boiled chocolate, and afterwards became natural. In general, the patient mended perceptibly, and in some weeks was perfectly recovered; although, for six weeks, a weak pulsation could be felt in the abdomen. Since that time, several years have elapsed, and she has married, and become the mother of a family, without any recurrence of these symptoms, but has, on the whole, been remarkably healthy.

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A man about forty years of age, had long been affected with hypochondriasis, which, from irregularities in diet, had never been perfectly removed, when, on the 10th of October 1798, he complained the whole day of anxiety, while, at the same time, his belly was distended and costive. The patient was sadly distressed, with a constant tendency to fainting, and complete sleeplessness.

On the 14th, he became suddenly so oppressed in the nighttime,

time, that he sprung out of bed, and immediately fell senseless on the ground.

The whole of the 15th he was restless; and, at ten in the evening, when going to bed, he vomited a good deal of blood, and about four in the morning, oppression and fainting again supervened. I was now sent for; I found my patient pale and debilitated, lying on the bed, and his first complaint was, that he was afraid his heart had fallen into his belly, as he felt a constant beating there. When I laid my hand upon it, I perceived a very strong pulsation, though not so much so as in the preceding patient. The most remarkable circumstance was, that I could trace this pulsation, not only from the sternum, along the whole course of the aorta, but even to the left iliac. The pulse at the hand was small, quick, and hard, and was not isochronous with the palpitation in the abdomen.

For several days nothing was discharged by stool but a pitchy black matter, and, after the use of gentle purgatives, all the symptoms very soon decreased. The pulsation in the abdomen, however, continued for nine months, but extremely weak.

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A robust and very handsome sailor was afflicted, for the space of six weeks, with constant pains in the right hypochondrium, which were particularly severe about midnight. At the same time he had such violent constipation, that very often drastic purgatives scarcely produced a single stool. After some weeks, there were superadded pains in the back; and the patient had a sensation in his belly as if something moved from one side to the other, and then ascended to his throat, upon which a vomiting of grass-green matter took place. At the same time, he felt, in the left side, a loud pulsation, which he took for his heart, and which lasted during the whole course of his disease. The pulse at the wrist was natural, and isochronous with that in the abdomen. From the commencement of the disease, the patient was obliged to sit with his body bent forwards, because every other posture caused insupportable pain. During the first weeks, opening his belly procured so much relief, that he afterwards passed six or eight hours without pain. After the disease had continued some time longer, he discovered, in the left hypochondrium, a round swelling, which reached to the navel. In an incredibly short time, it grew to the size of a child's head, and could be distinctly traced to the right side of the navel. By stool, a pitch-black matter, or red blood, or a matter resembling pus, was evacuated; and he also vomited sometimes bright red, sometimes dark red coagulated blood and bile. The patient had constant fever, wasted away to a skeleton, and at last sunk under this dreadful malady.

On opening the body, I found, in the middle of the mesentery a swelling, whose substance was of a nature particularly difficult to describe, and sixteen Parisian inches in circumference. The stomach was filled with coagulated blood. The spleen, mesenteric glands, and liver, were sound; the gall-bladder, on the contrary, enormously large, and containing a true, thick, viscid bile. The cœliac artery, coronary of the stomach, and mesenteric, were remarkably enlarged, and full of black blood, and, in all probability, the pulsation in the abdomen proceeded from one of these.

The fourth patient was a woman, who had long suffered under paralysis of her extremities. Some days previous to her death, her belly was much distended, and, on examining it, I also perceived a pulsation along the aorta. I could not determine how long this had been present, as she had never mentioned it, and at the time when I discovered it, was no longer able to answer a single question.

In a maniac, who at last had a stroke of apoplexy, I felt, shortly before his death, in the upper part of the left side of the abdomen, a very violent pulsation, which, in my opinion, proceeded from the aorta, as I could trace the pulsating body along the course of the artery, down to the umbilical region. During this violent throbbing, I could no longer perceive even the slightest motion in the arteries of the wrist, neck, or temple.

With the wife of a tinsmith in this city, who has had several children, this pulsation is so certain a sign of pregnancy, that she relies upon it more than all others. It is sometimes so violent that, as her husband assures me, it may be heard distinctly. After the third month it usually ceases entirely.

In hemorrhagy from the intestinal canal, which occurs here very frequently, I have observed this pulsation in the abdomen so constantly, that I was disposed to consider it as a characteristic symptom, until some recent cases of *hæmorrhœa petechialis* convinced me of my error. In these rarer cases of intestinal hemorrhagy which have the character of *synocha*, I felt it by much the weakest; but, on the contrary, in those which, as usual, have the character of *typhus*, or atony *(Lähmung)*, the strongest.

In hemorrhagy from the nose, I have twice observed this pulsation, but it was not nearly so strong as in intestinal hemorrhagy.

Persons who suffer under all kinds of hemorrhoidal symptoms, especially when they are oppressed, often complain of a beating pain in the region of the spleen, which sometimes continues very long, and is distinctly to be perceived by the hand.

In hypochondriacs, and hysterical women, I have often had occasion to observe this pulsation, which causes the greatest distress to these unhappy creatures, as they believe that their heart has fallen down into their belly.

This pulsation may be best distinguished from internal aneurism, with which it is apt to be confounded, by the following symptoms. Aneurism arises gradually, and the throbbing, therefore, also becomes by degrees stronger and stronger. These pulsations, on the contrary, occur suddenly; are generally strongest at the very first, and lessen when they have continued some time. In aneurism, the pulse is usually synchronous with that at the wrist; in these pulsations, on the contrary, this is not always the case. If the patient suffers under melancholy, hypochondriasis, hysteria, or other nervous affections; if he has vomited blood, or discharges a black matter by stool; if disorganization of particular parts of the abdomen is discoverable by the touch, in all probability the pulsation is not caused by aneurism, although, in describing it, Lieutaud has said, "*Melancholici, nulla sæpius prævia causa in hunc dirum morbum sunt proclives.*"

Except in the cases where the pulsation is produced by mechanical obstruction to the circulation, it is certainly, in most cases, a symptom of diseased nerves in the abdomen, as is proved, not only by the history of the cases, but also by the examination of bodies after death, in which nothing was found in the vessels which could serve to explain this phenomenon. I am of opinion, that it is the strength and situation of the pulsation in these cases, which especially surprises us, as several phenomena occur frequently enough in other places; for example, the palpitation of the heart, and the violent pulsation of the carotids, in hypochondriacal and hysterical patients. Nor need we wonder at the remarkable increase of action in one part of the sanguiferous system, as this also is not uncommon. Are we not taught, by daily experience, that, in several diseases, for example, in certain inflammations, and very painful affections, the action of the blood vessels of the affected part becomes very strong, without the heart or other vessels participating in it? Does not the pulse at the wrist, in inflammations, often exhibit the opposite character to that of the affected part? Does not the former often lead us to suspect *typhus*, while the most violent *synocha* exists in the latter? For I cannot believe that in those violent inflammations, in which the activity of the vessels at the wrist appears lessened, that this is also the case in the vessels of the part affected. At least, in my opinion, we have no direct evidence of it.

III.

## III.

### *Observations on Hydrocephalus Internus.* By G. G. KUHN Professor of Medicine, and Rector Magnificus of the University of Leipsick.

I AM now engaged in writing a treatise on *Hydrocephalus Internus*, a disease which your countrymen first taught us to treat in a rational manner. Still, however, I think that the English mode of treatment is too uniform; and I am, therefore, not surprised, that the most respectable of your physicians confess that they are not successful in the cure of this disease, so frequent among children. There are, certainly, according to Hopfengärtner's very learned inquiry concerning this disease, three species of *Hydrocephalus Internus*.

(*a*). The Nervous, in which the fever, accompanying the first symptom of the disease, has the character of typhus.

(*b*.) The Inflammatory, arising from a congestion of blood in the brain, which is accompanied with a violent beating of the carotids; and in which the face is red and swollen, and the fever strong.

(*c*.) That which succeeds scarlatina, on the eighteenth or twentieth day. Of this there are two varieties, one without fever, and less dangerous, which yields to repeated small doses of calomel; and another, which begins with violent symptoms, and is generally fatal.

In the nervous species, musk, either alone or in combination with ammonia, is indicated, in the dose of from two to eight grains of the former every hour; moreover, sinapisms on the arms and legs, bathing the feet, and clysters, but not so stimulating as to produce purging, which debilitates the patient extremely. If, under this treatment, the head does not become freer, and the intervals of relief not longer, we must endeavour, by means of blisters, reaching from the crown of the head to the neck, and by cold fomentations, to act directly upon the brain. Should the general obstruction of the secretions and excretions still continue, and vomiting unexpectedly occur, it would appear necessary to begin the use of mercurials. Fifteen grains of the common ointment may be rubbed in, five times a-day, on the inside of the thigh, without suspending the preceding remedies, until salivation be produced. When this takes place, the dose of musk must be diminished, and a drachm of the *flor. arnicæ* given in decoction, every twenty-four hours, with Virginian snakeroot, and some water of carbonate of ammonia. When under this treatment, the head becomes free, the urine turbid, the skin and nostrils moist, and the appetite returns, all other remedies may be omitted, except the *flor. arnicæ* in decoction, with cinchona, and some spoonfuls of wine. The sores produced by the blisters must be kept open, and the head frequently washed with cold water.

In the second species, *(a congestione)* regard must be had to diminish the impulse of the blood. In the first place, leeches must be applied to the inner corners of the eyes, then cold fomentations to the head. Should these means not suppress the disease at its commencement, constant coma, a slow pulse, and dilated pupil supervene; and the nervous character unfolds itself more and more, when the treatment already described is indicated: only, care must be taken not to resort to the diffusible stimuli too soon, as otherwise congestion will be again produced.

Of the third species, the varieties are so different, that each of them must be noticed. The inflammatory variety requires blood to be drawn by means of leeches; strong evacuation of the intestines, by means of jalap and calomel; and then cold fomentations, when the pulse is not so full, the redness of the face and the pain not so great as they were at first. In the second species, and the second variety of the third, it is certain that the foxglove, so strongly recommended by your countrymen, would be very active. By its action on the heart and arteries, rendering the pulse so slow, it diminishes the dangerous congestion in the brain, and, by its exciting action on the lymphatic vessels, it removes the effused serous fluid.

## IV.

## *History of an Injury of a Nervous Filament of the Fore-arm.* By R. J. B. VERPINET, M. D. of the School of Paris *.

MLLE. ***, æt. 21. of a nervo-sanguineous temperament, received a slight wound, in turning quickly round towards a young man, who held a knife in his hand. The knife, which was very narrow, penetrated the external and inferior part of the fore-arm, about two inches above the wrist, to the extent of four lines, or thereabouts.

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* See Journal de Médicine. Vol. X. Messidor, An. xiii.

The surgeon who was called to her assistance, having suppressed a slight hemorrhage, and believing that the severe pain, of which she complained, would soon cease, attempted to heal the wound by the first intention.

The pains continued, nevertheless, severe, not only in the fore-arm, but in the wrist also, and the extremity of the fingers. Some relief was obtained from the use of volatile and anodyne liniments. But the pains soon returned; the arm was tormented with spasms, stinging pain, and even convulsions; and the voluntary motions of the wrist and fingers were disturbed, and at times impossible.

The variations of the atmosphere had a wonderful effect on these symptoms; a serene sky gave relief; moist or cold weather increased the disorder; winds from the north and north-west were especially afflicting.

Some relief was experienced from the Baths of Bourbonne, and from pumping the same waters on the arm; but soon after, the symptoms returned more severe than ever; the spasm was general, and the patient wasted daily.

Dr Petit of Lyons was consulted. This celebrated surgeon advised compression by bandaging, and to bathe the parts around the cicatrix with a solution of opium; and, if these means proved ineffectual, to destroy the parts formerly hurt by the actual cautery. The gentler means were employed for a month, without any effect. The other, on the contrary, had an effect as happy as unexpected. Three cauterizing irons were extinguished in the cicatrix, passed beyond it, and produced an eschar, which soon came away. The simplest dressings completed the cure of a disease, which, during two years, had rendered miserable the existence of a young lady, as remarkable for gentleness as fortitude.

A year has elapsed since this cure; there seems, therefore, no doubt of its being perfect.

This is evidently a case of Neuralgia (*tic douloureux*) produced by an injury of a branch of the musculo-cutaneous nerve. The treatment recommended by M. Petit, was directed from a knowledge of the cause, and of the nature of the disorder. Severe lancinating pain, with pulsation; stinging, and shooting pain, without increase of heat, without tension or swelling of the part, accompanied by spasms and convulsions, are the symptoms of an affection, sometimes attacking periodically, but for the most part irregularly, and which may seize the superficial nerves of any part of the body, though most commonly those of the face;

and which, notwithstanding its very marked character, which distinguishes it from all other diseases, has been considered, by several authors, as a symptom only, while by others it has been described by various names, forming so many different diseases. M. Chaussier has described it by the name of *Neuralgia*, constituting a genus of *neuroses*. It would have been fortunate had the labours of this professor not been confined to the discovery of an appropriate name for the disease.

## V.

### *Case of Sudden Death, occasioned by the Inspiration of Nitrous Gas.* By J. B. Desgranges, M. D. Member of the College of Surgeons in Lyons *.

M. R——, merchant in Lyons, about 45 years of age, of a pretty strong constitution, and a pituitous temperament, and subject to habitual lowness of spirits, had received several chests, containing each ten cantines, filled with nitrous acid. At the time it was extremely warm, the thermometer being at 80° or 81° Fahrenheit. Next morning, about four o'clock, he was awaked by the noise made in his warehouse by a watch-dog, which howled with all its force, and was endeavouring to escape by gnawing the corner of the door. Suspecting robbers had broken into it, he opened the door in presence of a neighbour. Immediately a very disagreeable smell of nitrous acid was perceived, and the dog rushed out with his paws burnt. He ran to the nearest water to quench his thirst; played with some other dogs he happened to meet; and, in about two hours, returned and expired at his master's door, vomiting thick stuff of various colours.

Notwithstanding the suffocating smell emitted from the warehouse, Mr R—— was bold enough to go in and walk through the spilt acid, to open the windows, and find out the chest from which it escaped. But he had scarcely been in five minutes, when he found himself so suffocated, that he was obliged to hasten out with precipitation. At last they got another door opened from the outside, and Mr R—— again went in, took out the chest in which the broken cantines were, and, with assistance carried it into the street. On opening it, two cantines were found empty, each of which had contained 32 pounds of aquafortis, of 1.387 sp. gr. The lid of the chest was black, and charred; and it was observed, that, when M. R—— came out of his warehouse, his hair seemed reddish, or orange, as if burnt, but that colour soon disappeared.

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* See Journal de Médicine, Chirurgie, Pharmacie, &c. par M. M. Corvisart, Leroux, et Boyer, Vol. VIII. p. 487.

About six o'clock in the morning, M. R—— took a cup of coffee, with cream and sugar, and soon afterwards drank half a bottle of wine. He then went out to pay a visit, three or four gun-shots from his house, and returned before eight o'clock, complaining of great weakness, dry and burning heat in his throat, irritation in his stomach and breast, and a very painful sense of tightness in the epigastric region, near the attachment of the diaphragm; but his habitual difficulty of breathing was not proportionably increased. He was advised to drink copiously of milk; and his physician, who came soon afterwards, approved of the advice, and ordered, besides, fomentations to his belly, and sinapisms to his arms. The two last remedies seemed to fatigue the patient very much, and to augment his distress; but he continued the milk; and, about one P. M. he said he suffered less. He then had a spontaneous stool, of a yellowish colour; and in the space of an hour two others, both of the colour of citrine ointment. His urine was scanty; and in the evening he experienced frequent pressing desire to make water, but always in vain. At four o'clock he began to expectorate a yellow matter, which was supposed to indicate a relaxation of the pulmonary organs. An officious friend prevailed upon him to resume the milk, which he had left off for some hours, and to drink it alternately with orgeat. He then had a little cough, some sickness, and slight vomiting. Injections were given him, which came off instantly, but coloured yellow. His physician, who returned in the evening, about twelve hours after his first visit, deceived by the apparent calm in which he found him, declared M. R—— out of danger.

At nine in the evening, the body of the patient acquired a bluish colour; the affection of his breast became sensible; he grew more oppressed; had some rattling in his throat, and a little hiccup; and complained of great pain in the abdomen, and across the bottom of the thorax. He also experienced some convulsive motions, which made him stretch himself, and twist his arms; and, lastly, some moments of delirium were observed. Towards morning his anguish increased, his anxiety became inexpressible, and all the mortal symptoms grew more intense. However, he continued to drink milk, being in possession of all his recollection at five or six, and at seven he was no more. Shortly after his death, his belly swelled, and stretched in a remarkable manner; his face became purple; his lips black; and some blood issued from his nose and mouth, but his body was not opened.

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## VI.

### *Observations on the Effects of Nitric Acid in Elephantiasis.* By EDWARD COOKE, Assistant Surgeon, Sythet, in a Letter to Francis Balfour, Esq. President, and the Members of the Medical Board, Calcutta.

GENTLEMEN,

THERE being a great number of miserable objects at this station and its environs, covered with foul sores; with an offensive smell of body; general appearance most cadaverous; and mutilated by the horrid disease, called by the natives of this place *Burrah-azar*, or *Juzam*, as described in the Second Volume of the Asiatic Researches, I thought it a very fair opportunity to try the effect of nitric acid in cases so deplorable. From what I have perused, regarding this medicine, and observed, on a few trials, I was convinced, if no good should arise by a gradual introduction and attention, no harm could ensue.

I selected six very desperate cases; the patients were covered with inveterate sores; much emaciated; and, being deprived of their fingers and toes, were beggars for common subsistence. I represented their condition to the Magistrate of this station, who very humanely afforded them some additional support, during the time they were under my care; and occasionally, since that period, they have received assistance from him. I began with ten drops of the nitric acid in six ounces of water, twice a-day, increasing the quantity, after the first two or three days, four drops each dose, attending to the state of the bowels. I did not exceed sixty drops, twice a-day, at the extreme, and continued this quantity for some days: then as gradually decreased it in the same manner, until four were discharged, which took place in about six weeks. I was highly gratified to observe, in the course of a few days after the commencement, a visible improvement as to the discharge and appearance of sores. In eight days, almost every sore in four persons became clean, and had a fine florid look; began to heal by degrees, in the most healthy manner, and the offensive smell as gradually left them.

Respecting the other two patients, although there was the same flattering appearances, I was sorry to observe no disposition to heal which was evident, and continued for a week or two; yet, in every other respect, they looked well. Feeling somewhat concerned at this seeming failure, I suspected they might have laboured under venereal at some period or other, and therefore was more particular in my inquiries. My suspicions proved too true; both had been so unfortunate as to have been severely injured, which, joined to the former malady, they had two very powerful enemies to encounter. I did not hesitate, under these circumstances, to have recourse to the aid of Pil. Hydrarg. Ph. Lond. gr. v. bis in die, which, in five or six days, produced the happiest effects; and from that time, the sores gradually healed. I adopted the same plan regarding the decrease of nitric acid as with the others: and they were discharged, after being under my care ten weeks and a few days. It will appear almost incredible, but it is a real fact, I have frequently been abused by these very objects, for depriving them of the means of getting their usual subsistence as beggars, because they had no sores to excite compassion.

I cannot omit reporting my success in one case of scrofula, or *ghoorg hoora.* A prisoner labouring under the disease, with many offensive sores, enlarged glands, and old scars, which he said he had been troubled with eighteen years; I gave him the nitric acid as before mentioned, and was highly gratified by the general improvement: a purulent discharge gradually followed, and he was discharged in five weeks.

In one patient the nitric acid disagreed with his bowels; but a few drops of ol. menth. pip. and laudanum, soon had the desired effect. I do not pretend to declare a perfect cure; but, from the success I have had, and no return for three months, I hope this practice will induce medical gentlemen to try so valuable a medicine in similar cases. I trust you will forgive this trouble; and, be assured, I shall feel highly flattered if this report meets your approbation.

SYTHET, *4th January* 1805.

## *On the Cure of the Elephantiasis, and other Disorders of the Blood*[*].

God is the all-powerful Healer.

In the year of the *Messiah* 1783, when the worthy and respectable *Maulavi Mir Muhammed Husain*, who excels in every branch of useful knowledge, accompanied *Mr Richard Johnson* from *Lac'hnau* to *Calcutta*,

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[*] Asiatic Researches, Vol. II. p. 156.

*Calcutta*, he visited the humble writer of this tract, who had long been attached to him with sincere affection; and, in the course of their conversation, ‘One of the fruits of my late excursion,’ said he, ‘is a present for you, which suits your profession, and will be generally useful to our species. Conceiving you to be worthy of it, by reason of your assiduity in medical inquiries, I have brought you a prescription, the ingredients of which are easily found, but not easily equalled, as a powerful remedy against all corruptions of the blood, the *judham*, and the *Persian fire*, the remains of which are a source of infinite maladies. It is an old secret of the *Hindu* physicians, who applied it also to the cure of cold and moist distempers, as the palsy, distortions of the face, relaxation of the nerves, and similar diseases. Its efficacy too has been proved by long experience; and this is the method of preparing it:—

‘Take of white *arsenic*, fine and fresh, one *tola*; of picked black pepper, six times as much: let both be well beaten at intervals, for four days successively, in an iron mortar, and then reduced to an impalpable powder in one of stone, with a stone pestle, and thus completely levigated, a little water being mixed with them. Make pills of them, as large as tares or small pulse, and keep them dry in a shady place.

‘One of those pills must be swallowed morning and evening, with some *betel* leaf, or, in countries where *betel* is not at hand, with cold water. If the body be cleansed from foulness and obstructions, by gentle cathartics and bleeding, before the medicine is administered, the remedy will be speedier.’

The principal ingredient of this medicine is the *arsenic*, which the *Arabs* call *shuce;* the *Persians*, *mergi mush*, or *mouse-bane;* and the *Indians*, *sanc'hya:* a mineral substance, ponderous and *crystalline*. The *orpiment* or *yellow* arsenic, is the weaker sort. It is deadly poison, and so subtile, that, when mice are killed by it, the very smell of the dead will destroy the living of that species. After it has been kept about seven years, it loses much of its force; its colour becomes turbid, and its weight is diminished. This mineral is hot and dry in the fourth degree: it causes suppuration, dissolves or unites, according to the quantity given; and is very useful in closing the lips of wounds, when the pain is too intense to be borne. An unguent made of it, with oils of any sort, is an effectual remedy for some cutaneous disorders; and, mixed with rose water, it is good for cold tumours, and for the dropsy; but it must never be administered without the greatest caution; for, such is its power, that the smallest quantity of it in powder, drawn, like *alcohol*, between the eye-lashes, would, in a single day, entirely corrode the coats and humours of the eye; and fourteen *retis* of it would, in the same time, destroy life. The best antidote against its effects are the scrapings of leather reduced to ashes. If the quantity of arsenic taken be accurately known, four times as much of those ashes, mixed with water, and drank by the patient, will sheath and counteract the poison.

The writer, conformably to the directions of his learned friend, prepared the medicine; and, in the same year, gave it to numbers, who were reduced, by the diseases above mentioned, to the point of death, *God* is his witness that they grew better from day to day, were at last completely cured, and are now living (except one or two, who died of other disorders) to attest the truth of this assertion. One of his first patients was a *Parsi*, named *Menuchehr*, who had come from *Surat* to this city, and had fixed his abode near the writer's house: he was so cruelly afflicted with a confirmed lues, here called *the Persian Fire*, that his hands and feet were entirely ulcerated, and almost corroded, so that he became an object of disgust and abhorrence. This man consulted the writer on his case, the state of which he disclosed without reserve. Some blood was taken from him on the same day, and a cathartic administered on the next. On the third day he began to take the *arsenic-pills*, and, by the blessing of *God*, the virulence of his disorder abated by degrees, until signs of returning health appeared. In a fortnight his recovery was complete, and he was bathed, according to the practice of our physicians.—He seemed to have no virus left in his blood, and none has been since perceived by him.

But the power of this medicine has chiefly been tried in the cure of the *Juzam*, as the word is pronounced in *India*; a disorder infecting the whole mass of blood, and thence called by some, *fisadi khun*. The former name is derived from an *Arabic* root signifying, in general, *amputation, maiming, excision*, and particularly, the *truncation* or *erosion of the fingers*, which happens in the last stage of the disease. It is extremely contagious; and, for that reason, the prophet said, *Ferru mina'lmejdhumi cama teferru mina'l asad*, or, 'Flee from a person afflicted with the *judham*, 'as you would flee from a lion.' The author of the *Bahhru'ljawahir*, or *Sea of Pearls*, ranks it, as an infectious malady, with the *measles*, the *small-pox*, and the *plague*. It is also *hereditary*, and, in that respect, classed by medical writers with the *gout*, the *consumption*, and the *white leprosy*.

A common cause of this distemper is the unwholesome diet of the natives, many of whom are accustomed, after eating a quantity of *fish*, to swallow copious draughts of milk, which fail not to cause an accumulation of yellow and black bile, which mingles itself with the blood, and corrupts it: but it has other causes; for a *Brahmen*, who had never tasted *fish* in his life, applied lately to the composer of this essay, and appeared in the highest degree affected by a corruption of blood; which he might have inherited, or acquired by other means. Those whose religion permits them to eat *beef*, are often exposed to the danger of heating their blood intensely, through the knavery of the butchers in the *Bazar*, who fatten their calves with *Balawer;* and those who are so ill-advised as to take *provocatives* (a folly extremely common in *India*) at first are insensible of the mischief; but, as soon as the increased moisture is dispersed, find their whole mass of blood inflamed, and, as it were, adust; whence arises the disorder of which we now are treating. The *Persian*, or venereal fire, generally ends in this malady; as one *Devi Prasad*, lately in the service of Mr *Vansittart*, and some others, have convinced me, by an unreserved account of their several cases.

It may be here worth while to report a remarkable case, which was related to me by a man who had been afflicted with the *juzam* near four years; before which time he had been disordered with the *Persian fire*; and, having closed an ulcer, by the means of a strong healing plaster, was attacked by a violent pain in his joints. On this he applied to a *Cabiraja*, or *Hindu* physician, who gave him some pills, with a positive assurance that the use of them would remove his pain in a few days; and in a few days it was, in fact, wholly removed; but, a very short time after, the symptoms of the *juzam* appeared, which continually increased to such a degree, that his fingers and toes were on the point of dropping off. It was afterwards discovered, that the pills which he had taken were made of cinnabar, a common preparation of the *Hindus*, the heat of which had first stirred the humours; which, on stopping the external discharge, had fallen on the joints, and then had occasioned a quantity of adust bile to mix itself with the blood and infect the whole mass.

Of this dreadful complaint, however caused, the first symptoms are a numbness and redness of the whole body, and principally of the face, an impeded hoarse voice, thin hair, and even baldness, offensive perspiration and breath, and whitlows on the nails. The cure is best begun with copious bleeding, and cooling drink, such as a decoction of the *nilufer*, or *Nymphea*, and of violets, with some doses of manna; after which stronger cathartics must be administered. But no remedy has proved so efficacious as the pills composed of arsenic and pepper: one instance of their effect may here be mentioned, and many more may be added if required.

In the month of *February*, in the year just mentioned, one *Shaikh Ramazani*, who then was an upper-servant to the Board of Revenue, had so corrupt a mass of blood, that a black leprosy of his joints was approaching; and most of his limbs began to be ulcerated. In this condition he applied to the writer, and requested immediate assistance.—Though the disordered state of his blood was evident on inspection, and required no particular declaration of it, yet many questions were put to him; and it was clear, from his answers, that he had a confirmed *juzam*: he then lost a great deal of blood; and, after due preparation, took the arsenic-pills. After the first week his malady seemed alleviated; in the second it was considerably diminished; and, in the third, so entirely removed, that the patient went into the bath of health, as a token that he no longer needed a physician.

## VII.

## *Account of an Indian Remedy for the Tape-Worm.* By FRANCIS BUCHANAN, M. D. Surgeon on the Bengal Establishment.

THE original native receipt for removing the tape-worm, as communicated to me by Mr Alexander Russel, was as follows:

The fresh rind of the pomegranate root, one *paon*; water, one seer and a half; make a decoction, by boiling down to one seer. Seca Dana, Pulas Papara, each half a rupee weight, formed into a powder. A little sugar is to be first taken into the mouth, then the powder, and afterwards a tea-cupful of the decoction while warm, repeating this at short intervals, until the whole is consumed. The effect is vomiting and purging.

The Pulas Papara is the seed of the Plaso of the Hortus Malabaricus, or the Erythrina Monosperma of the Encyclopedie Methodique. The Seca Dana is the seed of the Convolvulus Nil, and is used as a purgative by the native practitioners. The half rupee weighs very nearly ʒ iss. The paon of fresh pomegranate bark, weighs nearly ℔ ss.; and the seer of water, measures nearly two pints.

The decoction seems to be the most active part of the prescription, as the seed of the Plaso belongs to the family of the *Leguminosæ*, which are rather inert; and the Convolvulus seed is but a weak purgative. A gentleman was entirely cured by a decoction of ʒ iv. of the bark of pomegranate root, boiled in two cupfuls of water to one half the quantity. He took one half of the decoction gradually, and the remainder at once. This occasioned sickness and vomiting. The powder was in this case omitted.

I have seen two species of tænia expelled by this medicine. One seems to be the *solium*, but each joint has three longitudinal ribs on one side, which I do not see mentioned in the descriptions of this animal. The other kind has not been described by any author in my possession. The joints are wider than their length, and have each one marginal pore. I have not seen the head or tail.

Mr Russel, Mr Shoolbred, and I, have given the medicine in several cases; and in none has it failed.

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The following is a case of a man treated by me exactly according to the original prescription.

14. Feb. 1805. Daniel Smith, a musician in the Governor-General's band, a strong, young European, has for six weeks had a sense of great weight and uneasiness in his abdomen, with an unusual appetite, and constant craving for food. During the same time, he has observed single joints of a tape-worm in his stools. He took the medicines exactly as prescribed by the native receipt.

15. After taking the medicines was sick and faint; and had three stools, in which he observed a piece of the worm, about a yard and a half in length.

16. Repeated the medicines.

17. Was very sick and faint after the medicines, which purged him ten or twelve times, but brought away no worm.

I had occasion to see this man daily, until February 1806, and know that, during that interval, he had no return of his complaint.

The quantity of medicine contained in the native prescription is evidently too strong for weak persons, as Smith was a remarkably stout man.

*Calcutta*, 14*th Feb.* 1805.

## VIII.

### *Case of Stricture of the Urethra, followed by extensive Gangrene of the Scrotum and Perinæum.* By Mr C. ANDERSON, Fellow of the Royal College of Surgeons, Edinburgh.

8. *Feb.* 1806.—LUKE WEST, a pilot, 52 years of age, about seven days ago, complained of cold fits with rigour, succeeded by heat, though without any perspiration; irregular as to their appearance; and which generally attacked him twice in 24 hours. He took bark, which, in a few days, put a stop to these symptoms.

Soon after this left him, he observed a slight swelling of the prepuce, and imagining it to arise from a recent venereal infection, he applied to Mr P., who gave him mercurial medicines, in the use of which he has persisted for three days.

For several years he has laboured under a difficulty of passing urine, arising from strictures in the urethra, the effect of old venereal complaints; for these he had frequently used bougies, and a variety of other medicines, which only alleviated his complaints; the urine always flowing in a diminished stream, and at times attended with considerable pain, which was much aggravated about the time the shivering fits commenced; he this morning complained, for the first time, of an unusual enlargement of the scrotum, which, in the evening, was much distended, and very red; he had made little water all day, and that with much pain; the swelling occupied both sides of the scrotum, which was very hard and tense, and extended up to the root of the penis; there was also some little redness of the perinæum.

Several long scarifications were made in the scrotum, from which there distilled a great quantity of urine, tinged with the blood from the incisions. In a short time the size of the swelling was diminished, and the scrotum pitted on pressure, which was not the case before; the whole cellular substance being so completely injected with urine, that it could not be made to pass from the cells into others. The mercurial medicines were discontinued; he got bark and a dose of opium at bed-time.

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9. Has passed a tolerably quiet night; the swelling of the scrotum is much diminished; the redness continues much the same; there is a considerable portion, at the inferior part of the right side of the scrotum, (which was most swelled) in a gangrenous state. The redness extends to the perinæum, which is much swelled; and near the tuberosity of the right ischium is pointing, though in a gangrenous state.

As all the bad symptoms proceeded from the urine getting into the cellular substance, I was anxious to pass a small catheter to prevent any further injection of it. A small sized one could only be passed down to about the bulbous part of the urethra, which gave considerable pain; and, on being withdrawn, a few drops of blood followed. The abscess in the perinæum was freely opened; the finger introduced discovered all the parts about the neck of the bladder; the prostate gland was enlarged and hard; but being anxious to introduce the catheter, another attempt was made, with more success; the instrument could be felt all along the canal of the urethra through its substance, and at no part bare, which gave hopes that the opening in the urethra might be very minute, and afforded a prospect of healing. Dr Kellie, to whose friendly assistance I am much indebted, kept his finger on the point of the catheter; and, after some time, it got into the bladder, by his lifting up the point of the instrument, and there was immediately discharged a considerable quantity of urine, of a very high colour; the catheter was allowed to remain in, and he got gr. 1 of opium; some more scarifications were made in the scrotum, those made last night having nearly healed.

In the evening I found, to my great mortification, that he had withdrawn the catheter, probably in consequence of its irritation, and a frequent desire to make water, though he strenuously asserts, that it slipt out whilst he was asleep; the scarifications discharge well.

10. Had a good night; passed water very freely by urethra, and says none came by the wound; the redness and swelling of the scrotum are rather diminished; the gangrenous spot is well defined, and has not increased; pulse about 100, rather small, and intermits every third stroke, very regularly, which it has done for two days; tongue moist, but a little furred; no head-ach; little thirst; belly regular; continues the bark and wine.

11. Swelling of the scrotum is much diminished; the slough begins to separate at some parts; scarifications were made into it; the wound in the perinæum discharges very fetid matter, and the bottom of it is sloughy; edges look red and healthy; tongue and belly as yesterday; pulse firmer, though it still intermits.

12. The slough was carefully removed by dissection; testicle bare; edges of sore look healthy; a small opening in the upper part of the scrotum communicated with the larger; the bridge was divided; pulse rather firmer, though intermitting; tongue moist; the sore in perinæo is sloughy at the bottom; in passing urine, a small quantity comes by the wound; takes an ounce of pulv. cinchon. in 24 hours; body rather loose; two stools; to take less bark; opium at bed-time.

13. Sore of scrotum looks much cleaner, and begins to discharge good pus; that in perinæum is still black and sloughing; says that more urine comes by the wound when he makes water; pulse fuller, and regular; ate some beef-steak yesterday without any inconvenience, and had a tolerable night; tongue moist; belly regular; takes his bark regularly.

14. Sore looks healthy about edges; sloughy at the bottom; most of urine comes by the wound; pulse small, 80; tongue a little furred; belly regular.

15. Much as yesterday; continues bark and wine.

16. Has had a restless night; pulse very small and feeble, but regular; all the urine now comes by the wound; two motions; rather loose; took one grain of opium in morning; two grains at bed-time; has taken a bottle of wine in 24 hours; continues bark. The sore on scrotum looks more healthy, the cellular substance of it is completely destroyed; and this wound communicates with that of the perinæum; the two wounds were made into one, by dividing a bridge of integuments.

17. Has passed a quieter night, though he did not sleep much; pulse 84, still irregular, though not so feeble; all the gangrened cellular substance, except a very little at the upper part of the perinæum, is now removed; the bottom of the wound looks sound and healthy, and red granulations begin to spring from all parts of it; urine observed to flow from three different points; one stool since yesterday; tongue moist, but a very little foul; to continue opium, bark, and wine; of the first he takes one grain in forenoon, and two at bed-time; a little beef-steak for dinner, and a draught of porter.

19. Sore looks clean and healthy; discharges pus of a good appearance; at the superior part of the perinæum, as well as at the inferior, it is still a little sloughy; passes urine all by the wound, without any difficulty, or even smarting; wound granulates; that of scrotum very florid; pulse 84, intermits at times; belly rather costive omitted the opium; continues bark; to take ℈ ij. of p. jal. comp. in the afternoon; thinks a little urine came by urethra; tongue moist.

20. Tolerable night; laxative gave one motion, though costive; pulse 80, of tolerable strength; a flexible metallic bougie, perforated and bent into the form of catheter, was this morning introduced into the bladder without any great difficulty; at times it met with some obstruction, but, on resting for a second or two, it easily was made to advance; occasioned a slight spasmodic affection of urethra, in consequence of mechanical irritation of the catheter; about six ounces of urine were evacuated; the instrument was allowed to remain, to prevent the urine flowing through the erosion of the urethra, which, by passing over new granulations, would render them callous, and thereby prevent the healing of the wound, and form troublesome fistulæ. To allay the irritation, he got one grain of opium; to take less wine, and drink porter; the bottom of wound is of a florid red colour; in it the following parts are easily traced, bulbous part of urethra, covered with the accelerator urinæ muscle of right side; the urethra, running between it and muscle of the other side, could be felt distinctly with the point of the finger, distended with the catheter; the transversalis perinæi, also of the right side.

21. Has had a quiet night, and suffered no inconvenience from the catheter; pain subsided soon after taking the opium; has passed urine frequently through the instrument, and none comes by the wound; pulse and tongue much as usual, for these some days; belly bound; the laxative powder was repeated this morning, which gave a motion towards mid-day; takes beef-steak with porter, for dinner.

22. Has passed a quiet night, though with but little sleep; wound looks well; no inconvenience from the catheter, through which he makes water easily, and whenever the desire of evacuating the bladder comes on; pulse still feeble and irregular, beating 84 times in a minute, with an intermission at the end of every third pulsation; tongue moist, still a little foul; no head-ach; appetite good; to omit the opium in the evening, as he complains of being costive.

24. Every thing goes on well; ulcer quite clean, and discharge good; feels no inconvenience in wearing the catheter, except from the length, which projects a good deal beyond extremity of penis; passes his urine without any pain; none comes by wound; in expelling the last drops, however, he feels a desire as if to void more; as this arises from the irritation of instrument on cervix vesicæ, he was directed to desist from pressing; whilst the urine still flows in a stream, to cork the catheter, and turn on his back; by this, the small quantity of urine which remains will prevent the collapse of the bladder on the instrument, by distending the lower part of it.

25. This he has now practised for two days, and finds the uneasiness produced in expelling the last drops of urine, together with the great desire to continue expelling it, to have diminished very much.

March 3. The wound in the perinæum has filled up very much, though, at the lower part, it is still very deep: but all of it looks clean and very healthy. The sore in the scrotum is now level with skin, and begins to cicatrize; pulse 80, and full, though at times irregular; tongue clean and moist; belly natural; appetite good; and sleeps well; though, till last night, he has generally taken a dose of opium, having found, by experience, that it was requisite.—Last night, however, he slept well without any; has sat up a little, though he is so much reduced, that, if he continues long in the erect posture, he feels faint, and becomes so fatigued, that he is obliged to lie down in bed. Upon the whole, the cure goes on as well as could be expected, considering him to be a man of an emaciated habit, and debilitated constitution. The wound looks very healthy; and that part of it which is incarnated looks sound and firm, and discharges very little matter; the sore, however, is dressed morning and evening. He continues to take a dose of Peruvian bark, four times a-day; to drink half a bottle of wine, and a bottle of porter, every day; and makes a good dinner of beef-steak, or roasted meat, &c.

6. Every thing continues to wear a favourable aspect. The catheter was withdrawn this morning, having been worn exactly fourteen days; pulse, tongue, and belly, are much as formerly.

7. Continues well; has made water four times since yesterday morning, which flows easily through the urethra, in a larger stream than for seven years past, without pain or difficulty, and none comes away by the wound; he passed a better night than since he was ill, which he ascribes to the catheter having been removed, although he experienced no great uneasiness from it during the time it remained in the bladder.

10. The urine continues to be passed freely through the urethra; the wound to look healthy and to cicatrize. When the urine has cooled, and remained some time in the vessel, there is a slight deposition of glairy matter. He was put upon the use of uva ursi, of which he is to take ʒss. three times a-day.

20. Every thing continues to go on well. The sediment in the urine is rather less in quantity since taking the uva ursi; continue.

April 5. Sore nearly healed up, except at the lower part of the perinæum; urine is passed without any pain or difficulty. The quantity of sediment in the urine is nearly the same as it has been for some time; is able to walk about his room; and gains strength daily.

20. The sore is nearly all cicatrized; one small part in the centre, and another at the lower part is still a little tender; urine passed easily; the sediment has been nearly the same in quantity for some weeks; has taken the uva ursi regularly; but as there is no change, it is discontinued.

May 3. As the quantity of sediment in his urine has increased since leaving off the uva ursi, he has begun it again; for a few days, he took ℈ ij. for a dose, but this day ʒ j.

10. Continues to take uva ursi, and the sediment in his urine is in less quantity; he now walks about; discharges his urine freely, without any harm or difficulty, and considers himself in perfect health.

LEITH, 1806.

## IX.

### *On the Application of Galvanism in the Cure of Diseases.* By ANTHONY MONGIARDINI, M. D. Member of the Italian National Institute *.

BEFORE speaking of Galvanism, and of the reasons which induced me to make some experiments with the Pile of Volta, I do not think it superfluous to premise some observations on medical electricity, and to relate some experiments made with an excellent machine of Nairn. In this manner, I shall be better able to compare the effects of electricity with those of galvanism, and to discover if the fluid which circulates in both machines be the same.

Seven patients were treated with electricity. The first a priest, suffered under chronic ophthalmia, and a very copious involuntary discharge of tears, occasioned, not so much by any stricture on the lachrymal duct, as by the quantity of fluid spread over the *albuginea and tarsi.* Two complained of obstinate deafness; one a lady, 40 years of age, and the other, a young man of twenty-five. The fourth was a friar, paralytic, in the right leg and thigh, from a stroke of apoplexy. The fifth, a chlorotic girl, whose menses were suppressed in consequence of a sudden alarm. The sixth, a lady of 50, affected by an obstinate sciatica, for which she had consulted the most celebrated physicians in vain. The seventh, a young man of 30, who suffered from excruciating pains in the left temple, extending to the ear, cheek, and teeth of the same side.

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* *See* Memorie della Societa Medica, di Emulazione, di Genova. Tomo II. 8vo. Genova 1805.

In these cases, I indiscriminately used the bath, sparks, and shock, but always took care, in employing the latter, to direct it through the whole affected part. I also preferred, in most cases, the positive to the negative electricity, although in the results I did not see much difference between them.

The priest was cured of his ophthalmia, but his eyes still continue to water. One of the deaf patients gained nothing, the other, after some time, recovered his hearing, but, at the same time, he had a spitting of blood, to which, perhaps, his cure may be ascribed. The advantage which the paralytic friar derived was momentary; and there was no obvious effect produced in the chlorotic girl. I had the greatest hopes of the lady suffering under sciatica; since, after its first application, perspiration appeared on the affected part, which it had not done for many years; but although it was long persisted in, no other effects could be perceived, and the lady continues to live in the same miserable state in which I left her. The young man with pains in his head, experienced the greatest relief; but, while he was using electricity, a tumor grew on his neck, which suppurated very quickly, and continued long to discharge a very fetid pus.

The first consequence which I drew from my experiments was, that, in many diseases, and even in those in which its use has been so much vaunted by some, electricity cannot be considered as a sovereign, or even as a powerful, remedy. The following are the effects which I have constantly seen from the application of electricity to the human body.

1. The part electrified, whether positively or negatively, feels a pain resembling slight scalding.

2. The sensibility of the part electrified is increased, and sometimes to such a degree, after shocks or strong sparks, that the application of any stimulus, even the *aura electrica*, becomes insufferable.

3. The skin becomes red, and there is a greater flow of fluids to the electrified part; hence arise bullæ and true phlyctenæ.

4. The electrified parts move more easily, unless the sparks or shocks have been too long continued, in which case, they are succeeded by greater debility.

5. The circulation of the blood is accelerated, and the secretions seem to be increased.

6. After long electrization, the mental functions seem to suffer in their energy; and, in the course of a cure by electricity, head-ach and vertigo do not uncommonly occur.

Galvanism was tried in two cases of paralysis of the arms; in one of paralysis of the cheek, in a chlorotic woman; in one case of amaurosis, in an obstinate ophthalmia; and, finally, in many who were born deaf and dumb. With this view, I indiscriminately made use of the metallic pile, and the *corona di tazzi*, which I even carried the length of eighty cups. I applied it in such a manner, that the patients experienced the shock from these machines very frequently, and for a great length of time. I also made it pass through the whole of the diseased part, by means of conductors or chains connected with two poles. I sometimes took occasion to observe the action of the muscles, to which a metallic point was applied, while the body of the patient was connected with the other pole. Sometimes I bathed the part with a saline solution, which doubled the effect; and at other times I armed it with a metallic plate, which increased it to a still greater degree.

One of the paralytic patients, in the first trials on his arm, acquired such advantage, that I entertained some hopes of curing him; but although he has continued to be slightly relieved, in the sequel he has not derived any benefit from a very long trial of both machines. The second case of paralysis, it is true, was of a very inveterate nature, but the galvanism did not produce even the slightest effect. The case of paralysis of the cheek was more sensibly affected by this method of cure; for, although it cannot be said to be perfectly removed in every respect, it approaches very near to a total recovery. The chlorotic lady, who had the shocks passed through her pelvis, from the right to the left side, did not derive, from this treatment, the smallest benefit. On the contrary, she experienced head-ach and giddiness, to which she had not been subject. It appeared, as if the blind patient began to feel the influence of galvanism applied to the supra-orbital nerve; the iris began to contract; and, lastly, during the experiment, he saw objects which before were invisible to him. But I must confess ingenuously, that these good effects were not durable, perhaps from not having continued the experiments sufficiently long. I am sorry to report the same thing of the ophthalmic patient, who is, however, about to make another trial of this method of cure, with which he was tolerably well satisfied. Lastly, among all the different deaf people, whom I treated by transmitting the galvanic fluid from one ear to the other, there were scarcely any who derived the slightest advantage. They all suffered very violent shocks for a long time; and, after the experiment, almost all of them felt a certain murmuring in the ears, which gave me flattering hopes of their recovery. But I must candidly confess that these unfortunate people all continue in their original state.

Such are the results of my medical experiments, but not the general effects of the application of galvanism to the animal machine. To these it is proper to attend, in endeavouring to learn the laws which regulate it; to discover, if possible, its nature; and to extend its use in those diseases in which it may be indicated according to a rational theory. I enter upon this subject the more willingly, that I think an abundant harvest may be gathered from the first experiments which have arisen from the science of galvanism.

1. That part of the skin to which it is applied experiences a heat or irritation, equal to that of a slight scald; becomes red, swells, and remains for sometime pained, when the fluid continues to be discharged on the same spot. Where the skin is more delicate, its effects are more sensible; hence, the application of galvanism on the hand makes less impression than on the face, on the face than on the lip, &c.; and where it is least sensible, it resembles a sensation of creeping, rather than a puncture. The hair of the body, as well as of the head, deadens its effects; and excoriation increases it, so as to render it insupportable.

2. The muscles, beneath the part galvanized, contract, and that repeatedly, on the mere approximation of the metallic point.—The contraction is not, however, always in direct proportion to the pain felt by the patient. It is even not rare to induce the contraction without the sensation, and *vice versa*. Besides, it is not only the muscles immediately below the part galvanized which contract; it sometimes happens that, after having galvanized the fore-arm for half an hour, the muscles of the arm and hand contract remarkably.

3. By drawing the conductor along the course of any large nerve, the contractions of the muscles are greater, although the local pain is not increased. Sometimes, however, all the effects of galvanism cease instantaneously, and reappear again, with greater energy, without any change of circumstances. I do not know whether this proceeds from any thing in the apparatus, or, which is more probable, is owing to the irritable fibre, which, according to the laws of Fontana, needs some repose to renew its contractions, notwithstanding the continuance of the stimulus. In fact, with the pile the decomposition of water is uninterrupted, which would rather lead us to ascribe the phenomenon in question to the laws of the animal economy.

4. The redness and swelling of the skin, when long galvanized, sometimes degenerates into small blisters, like those arising

from scalds. There appears, in fact, some red points, like the bites of fleas or gnats, in which, when examined with a lens, the epidermis appears raised, and covering a small quantity of a yellow fluid, which is afterwards reabsorbed, or dries up and leaves a very slight eschar.

5. The pulse is accelerated under the use of galvanism, at a medium, five beats in a minute. With the quickness of the pulse, the secretions, especially those of perspiration and urine, are increased.

6. After these experiments, there remains a greater degree of sensibility in the part, as well as a greater facility of motion; but these effects are very transient. I cannot exactly decide how long they lasted in my first experiments, as they varied, in some being only half an hour, in others half a day.

7. After galvanism has been long applied, especially if to the head, vertigo, headach, watchfulness, and sometimes general languor, particularly of the limbs, are induced. I even do not doubt that fever itself, and convulsions, might be brought on by persisting in its application.

8. Galvanism disposes bodies to putrefaction. Muscular fibres, blood, urine, and bile, when galvanized, became putrid sooner than the same substances not galvanized. I must confess my surprise, that the opposite has been maintained by the celebrated Dr Fowler, who, speaking of the differences between electricity and galvanism, has said, that the former disposes bodies to corrupt, while the latter preserves them. I cannot quote a great number of experiments in opposition to this philosopher, but those I have made were exact and precise. Perhaps, the longer or shorter application of galvanism to the above-mentioned substances, may have contributed to vary the effects. But I shall examine this subject on another occasion.

9. With regard to both machines of Volta, I have observed no notable difference, in their effects on the human body, between the positive and negative poles; but I must not omit to mention, that many, who have tried both, have found the shock and burning most intense from the negative pole.

These are the real and genuine effects of galvanism, as observed by me, on many patients, and a very great number of persons in health. I have consulted nature, and these are her answers. Is it not evident, that the effects of galvanism, applied to the animal machine, are the same with those of electricity? We have observed the same sensations, the same contractions, the same inflammation of the skin, the same acceleration of the pulse, the same increase of secretions, a greater degree of sensibility, a greater facility of motion, and nearly the same success in the cure of disease.

## X.

### *Report of the Medical Faculty of Kiel, to the Royal German Chancery of Copenhagen, relative to the Cow-pox in the Dutchies of Schleswig and Holstein* *.

The Medical Faculty, having, after repeated solicitations, at last received a certain number of replies to the memorial sent by them to all the district—and other physicians of the dutchies and neighbouring provinces, especially the circle of Eutin, and circulated still more generally by the care of the Chancery, finds itself now able to present a report on that subject, and to lay before the Chancery some further suggestions.

In the enclosed memorial, the Medical Faculty has endeavoured to give a condensed extract from the various reports, of the facts most calculated to elucidate the subject. The results of these reports, as well as of the experience of the members of the Faculty, coincide, in general, with the observations made in other quarters, in favour of this new method of inoculation. In particular, they give a great degree of probability to the assertion, that a certain kind of pustular disease, derived from the cow, operates as a preventive of small-pox, not only for a time, but for life; still, however, some observations of a contrary tendency, contained in these reports, deserve consideration, although such rare occurrences have also been observed in small-pox.

The experiments in which the cow-pock was intentionally inoculated; and which, in the reports of the Faculty, amount to more than 1100, agree in general with those already known, in proving, that the inoculated cow-pock is, without exception of age, in general a slight disease; and during the short period to which the observations are as yet confined, productive of no injurious effect on the health, and preventive of the small-pox. What the farther consequences may be, must be left to time and observation to decide.

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* *See* Nordisches Archiv für Naturkunde, Arzneywissenschaft und Chirurgie, herausgegeben, von Prof. Pfaff in Kiel; Dr Scheel in Kopenhagen, und Prof. Rudolphi in Greifswalde, Ster. Band. S. 39. 8vo. Kopenhagen, 1803.

The Medical Faculty, therefore, considers the promotion, and extension of the practice, as advantageous to the public weal, and desirable, in regard to the important results to which it may lead, provided the necessary precautions be observed, which this new, and in some respects not yet fully understood discovery requires. To promote the investigation of some points still doubtful, and to render thereby this important discovery still more universally useful and more safe, the Faculty takes the liberty to submit to the Chancery the following propositions:

1. As in both dutchies this disease occurs so frequently among the cows, and is in a manner endemical; and as the study of the disease on its original source is important, in more than one point of view, the Medical Faculty is of opinion, that it would be proper for his Majesty to institute the following prize questions:

"What is the origin, progress, and consequences of this disease, as originally affecting the cow?"

"How many species and varieties of it are there; what are their characteristic symptoms; and, what relation do these different kinds bear to each other?"

"Which of these kinds are infectious, with regard to the human system; and in what relation does such infection stand with regard to the small-pox? What is the best time for obtaining lymph from the pustule on the cow, really capable of preventing small-pox; and, what are the marks of its being good and fit for use?"

A term of three years may be allowed for giving in answers.

The opening a source of cow-pock matter from the cow itself, is the more important, as, according to the reports given in to the Medical Faculty, it appears, that matter dried for some days, which was sent from Copenhagen, took effect in very few cases only, and this discovery is most likely to be effected, by directing the investigations of medical men to the disease in the cow.

2. The Medical Faculty considers it adviseable, that vaccination should be practised only by capable physicians and surgeons, that so valuable a preservative may not fall into disrepute, in consequence of observations not to be depended upon.

3. The Medical Faculty thinks it would be proper, that the Chancery should direct the district physicians, and country surgeons in both dutchies, to transmit to the Medical Faculty, every half year, a report of the cow-pock inoculations performed by them, and their observations respecting it.

The remaining proposals which the Medical Faculty could make, for promoting and extending vaccination in both dutchies,

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are so circumstantially detailed in the "Report of the Vaccine-committee of Copenhagen," that it has nothing to add to them; and it only remains for the Chancery to decide which of them, and to what extent they are applicable to both dutchies.

*Medical Faculty of Kiel,* 3. *Dec.* 1802. } ACKERMANN, WEBER, HENSLER, FISCHER, PFAFF.

II *. The second section relates to the observations which have been made on the disease as affecting the cow, as well as the facts known in Holstein, prior to the Jennerian discovery; the effects of cow-pock on the human body; and especially its power of preventing small-pox. In arranging the facts contained in the reports, the Faculty will follow the order in which the questions were addressed to the physicians of both dutchies.

1. "*How long has the Cow-pox been known in either dutchy, according to indisputable evidence?*"

The reports unanimously agree in stating, that, where it occurs, it has been known for several generations.

Dr Heinze particularly quotes an epidemic cow-pock among the herds at Ohlenrade, as far back as 1746; and names his authorities, who are still living. A countryman, Daniels of Halendorf, remarks, that before the time of his mother, who is now eighty years of age, the cow-pox was known; and, in the family of Inspector Carstens at Mönch Neversdorf, the knowledge of it goes as far back as when his grandfather was a boy.

According to the reports, the cow-pock is known in the greater part of Holstein, especially on the noble estates in the Probstey and their neighbourhood; in the contiguous county of Oldenburgh; in the vicinity of Neustadt in the country of Eutin; in Oldesloe, Segeberg; and in the tract of country from there to Rendsburg: in short, in the Eastern parts in general, while it is totally unknown in the western, as in Pinneberg; in Glückstadt; and especially in the marshes, as those of Norder and Süderdithmarschen; in Wilstermarsch; in the marshes of Schleswig, Eiderstadt, and in the neighbourhood of Tondern. It prevails especially among the numerous herds of the great dairies; commonly spreads, when it appears, very quickly through the whole herd; and often returns to the same herd, like the epidemics of small-pox among men, after longer or shorter intervals of fifteen, twelve, ten, or even a few years. On the contrary, there are cases where, in the course of thirty or forty years, it has only appeared once in the herds of the same dairy. In the very country where it has more than once raged among the large herds of the dairies, it has not affected the single cows of the peasantry *.

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* The first section is omitted, because, although interesting at the time of its publication, it contains no fact which has not been verified in this country by an infinitely more enlarged practice.—E.

2. and 3. "*What different kinds of cow-pox are known in your district? How are they distinguished from each other, by colour or other characters?*"

The reports furnish us with less conclusive information on these subjects. In general, indeed, they agree that there are several kinds of pox which affect the cow, but the characters of these are, in part, so imperfectly given, that an accurate diagnosis of them is still a deficiency. Several reports distinguish the cow-pox

(*a.*) In regard to its intensity, into *mild* and *malignant.* They are, however, said, in general, to resemble each other in their essential external characters, such as colour and form; and to be distinguished from each other chiefly by the following circumstances.

The *mild* are more distinct, (*Variol. discretæ*) and somewhat larger, being as large, or larger, than a pea; all the symptoms connected with them, as the swelling of the teat and udder, the pain, &c. are milder; and the subsequent ulcers are not so deep, and heal without any further bad consequence.

The *malignant*, on the contrary, are more frequently contiguous, and, as it were, confluent, (*Variol. confluentes*) and smaller, not being larger than a lentil; and, in the sequel, form a confluent ulcer, covered with a single crust, accompanied with

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* In Wulfdorf, the cow-pox was epidemic in 1762, while the cows were still in their stables; and again in 1764, after they were cut at grass. As no precautions were taken, it affected the whole of them. The farmer, whose name was Stuhr, did not regard it, as he knew a remedy which alleviated it much, and rendered it very short. It consisted of gum *euphorbium* in powder, mixed up, to the state of a thick salve, with fresh butter. The size of a pea of this, rubbed into every pustule, destroyed the poison; and a hard crust was quickly formed; the inflammation of the teats disappeared; the crust fell off in a few days; and, in a few days more the teats were well. He applied the same remedy to the hands of the milkers who were infected, and often prevented, by means of it, the painful inflammation of the arm.

In June 1787, the cow-pox appeared in a herd of 400 cows at Futterkamp, and became general. They were, in general, successfully treated by the application of a compound liniment; but some, to which it was not soon enough applied, lost their teats. Dr Heinze quotes thirteen other cow-pox epidemics, which prevailed in different herds, in different years, and at different seasons; and by which individuals were infected, who resisted the small-pox during life.

much swelling and pain, and even sometimes causing the loss of the whole teat or udder.

According to some reports, however, the malignity of the cow-pox seems to be connected with other more specific differences.

(*b*.) From the reports, indeed, it evidently appears that there are various species, differing in their colour, appearance, form, relation to the small-pox, &c.; but, in most of the reports, the characters are too vague to admit of the enumeration of the different species with certainty. Dr Nissen, by transmitting to the Faculty coloured drawings of the different kinds of cow-pox seen by himself, has thrown the greatest light on this subject. By comparing these drawings with the other reports, the following kinds may be enumerated with certainty.

1. The *Blue genuine Cow-pox*, which is also described by some as blue-grey, dark blue-grey, pearl-coloured, and even white. According to Dr Nissen, they are the smallest which he has observed, and the most benign; they discharge much matter; and the ulcers eat somewhat deep, but they form a crust much sooner than the other kinds.

2. The *Yellow Cow-pox*, which are stated, in the greatest number of the reports to be smaller than the former, and are described to be yellow from their first appearance, and to continue so, containing a yellow matter, are also contagious, but, according to one account, at least, do not afford security against the small-pox. As observed by Dr Nissen, the yellow, or brownish-yellow cow-pox, were larger than the blue, and almost transparent, emitted an extremely unpleasant and almost putrid smell; and soon degenerated into itchy, eating sores, from which matter and blood fell in drops. In cows with reddish stripes, they had more of a brownish colour. They were infectious, and the boils and ulcers arising from them had the same unpleasant effect on those who milked them. Those who were infected by them were often confined several days to bed, suffered severe pain in the pustules, and were in danger of losing some of their fingers.

To this species belong, undoubtedly, the red or yellowish-red variety, to which Mr Henckel, surgeon in Lehnsahn, gives the title of malignant, and which run together, acquiring the appearance of yellow wax, and stinking abominably.

3. The *Black Cow-pox*. Dr Nissen alone describes them more minutely. They were larger than the blue species observed by him; had completely the appearance of scrofula; also degenerated into bad ulcers, like the yellow kind; and, in the manner of their drying up, resembled them exactly. On the hands of the dairy maids who were infected by them, they were

equally large and black; and when they changed into ulcers, eat particularly deep.

One other report alone mentions these black cow-pox, and does not describe them more minutely. There are mentioned besides,

4. *Wind Cow-pox,* which resemble blisters, and contain a watery fluid only. They are said to be less infectious than the yellow cow-pox, and to afford no security against small-pox.

5. *Red Cow-pox.* Dr Heinze remarked them on about twenty cows in the convent meadow in Pretz. The red vesicles stood like pearls, and contained thin matter.

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Of the relation of these different kinds of cow-pox to each other; whether the spurious varieties, No. 2—5., have degenerated from the genuine kind, in the manner that has been observed to take place in the inoculated cow-pox in men; whether the black cow-pox arise from a second infection of cows which have already had the blue cow-pox, as similar black cow-pox have been observed in men who have before had cow-pox or small-pox; whether these varieties, in the colour of the cow-pox, proceed in part from the same disease having been examined in different stages, as, for example, might be the case in the red pustules observed by Dr Heinze only in the stage of suppuration, and which, on drying up, might be converted into the black cow-pox; how far the dairy-maid who was infected by them had black crusts on her hands. On all these points the reports give us no further information.

It has been already remarked, that, in the marshy district, the *genuine cow-pox* is totally unknown, still, in summer especially, small pustules are observed between the thighs, on the teats and udders of the cows, which, only in the worst cases, acquire the appearance of somewhat larger vesicles, and are not infectious either to other cows or to man.

4. "*What influence is the cow-pox said to have on the cow, and perhaps, also, on other animals?*"

All the reports agree, that the cow-pox, considered as a general disease, is slight, and that the constitution never suffers obviously, since during it the cows eat, chew the cud, stale, and sleep as before; and, considered as a local disease, the degree of violence varies much; but even in the most violent degree, the general health does not suffer obviously.

It is always treated as a local disease, and the application of appropriate remedies, which individual farmers and cow-doctors have long employed, and which, according to valuable observations communicated with regard to them by Dr Heinze, are slight caustics, are attended with speedy effect. Even the secretion of the milk is, in most reports, not obviously affected; and in the worst cases not entirely suppressed.

Dr Nissen, who paints them, as a local evil, in the worst colours, takes no notice of their effects on the constitution.

The influence of cow-pox on other animals is not mentioned in any of these reports; and one of them distinctly states, that other animals, as horses, and sheep, which pasture on the same meadow with the diseased herd, are not infected by it.

Also, all these reports mention only the cow-pox of milk-cows, and never hint at its being communicated to calves, bulls, or oxen.

5. "*What proofs can be deduced from the accounts in your district, with any certainty, that cow-pox is a preventive of small-pox?*"

The greatest number of reports, from the districts where cow-pox is known, agree that its powers of preventing small-pox have been known as long as the disease itself. But, in some reports, it is stated that the cow-pox occurs in their district, without any thing positive being known with regard to its antivariolous powers.

About fifty cases may be collected out of these reports, of security afforded against the small-pox by cow-pox, with the names, age, and sex of the individuals when alive, and of the authorities when dead, specified. The most remarkable is, that of a woman still alive, who had the cow-pox when a year and a half old, and has remained secure against small-pox infection for sixty years, another 56 years, some about 40, several 30, and some 20, almost all still alive *.

Most of these were repeatedly exposed, under the most favourable circumstances, to small-pox infection, and five of them allowed themselves to be inoculated for the small-pox along with their children, without any effect, although the latter took the disease.

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* The daughter of a farmer of the name of Priehm, when 14 years of age, was affected with the cow-pox in 1746, when it was epidemic in the herd at Ohlenrade. She married a M. Martens; lost eight children in the malignant small-pox, whom she attended without being infected; and now, being above 70 years of age, lives with her son; and, only four years ago, kept her grandchild, who had the small-pox from inoculation.

In 1742, when the cow-pox was epidemic in Segalendorf, Mrs Völker, then only a year and a half old, was infected by her mother, who was at that time obliged to assist in milking the cows. On returning to her house, her mother took her out of the cradle to wash her, probably without having previously washed her own hands; and a pustule, which had a bluish appearance, and had a large red accola, appeared on one of the labia pudendi. In 1749 the small-pox came into the country, and she slept in the same room with her infected brethren; she afterwards kept her own children when ill of small-pox; and, in general, was frequently exposed to infection. She is now 63 years of age, lives with her son-in-law Daniels in Segalendorf, and is still proof against small-pox infection.

There is rarely, in these reports, any specification of the kind of cow-pox which afforded security against the small-pox, but when there is, it is *genuine blue cow-pox*.

Four observations of an opposite tendency, where small-pox occurred after cow-pox, are given in these reports. The wife of Abraham, steward at Behrensbroeck, according to the information given to M. Mehring, surgeon at Emkendorf, by her neighbour Lerch, who himself had had the cow-pox several times, had the cow-pox very severely, and, if Lerch remembers accurately, even several times, and yet she died of small-pox nine years ago. What kind of cow-pox she is said to have had is not mentioned. The second case was related by Kofal, the dairy-woman on the estate of Caden, to the steward. Her son was infected pretty severely by the cow-pox on the hands and arms, in consequence of milking the cows; and, about a year afterwards, he took the small-pox along with the rest of the children. This was a case of infection by the spurious yellow cow-pox, as is fully proved by the accurate description of it, and by other circumstances, as the want of any consitutional affection, except the pain, and the absolute similarity of symptoms in those infected, whether they had previously had the small-pox or not, &c. Finally, Mr Henckel of Bensahn, surgeon, relates two cases, but which, on the one hand, are not sufficiently attested, as the subjects of them are not alive, and, on the other, it is uncertain whether the cow-pox which failed to give them protection was genuine or spurious.

To these, however, must be added some observations of one of our own number, Dr Weber. More than twenty years ago, he had his attention directed to the cow-pox by landed proprietors and dairy-men, and made his pupils acquainted with the subject. Among the great numbers whom he inoculated with small-pox, he always met with several from the country, of whom it was said, that the inoculation would not succeed, because they had had the cow-pox; and this was most commonly the case. A few of these only took the small-pox from inoculation. Even at that time, he was informed, that occasionally country people inoculated themselves, by simply scratching the hand, and rubbing in fresh cow-pox matter, to prevent them from taking the small-pox. Two girls, effectually inoculated thus with the real blue cow-pox, the one three and the other five years, afterwards took the small-pox in a severe and confluent form. These two instances Dr Weber knows from personal observation; and he has heard of two others from a farmer well acquainted with the eruption, in whose own daughter it occurred.

6. " *Has any unpleasant consequence been observed from the action of the cow-pox on the human body ?*"

All the reports agree in stating, that the cow-pox is followed by no consequences prejudicial to the health. This is also proved by the naming of several instances of persons who had the cow-pox in their youth, were preserved from small-pox all their lives, and lived to the age of 60, 70 and even 80. Also the cow-pox received by infection, in most of these reports, is described as very mild, so far as respects the general affection, and almost as a local disease. A single case only is mentioned, in which a pretty smart fever, with delirium, arose from infection ; and several cases are quoted where the local affection was considerable, consisting in a great swelling of the whole arm, with violent inflammation and pain, but without being followed by any bad consequence.

In one case of rash self-inoculation, by a deep cut with a knife, and the putting in of a great deal of cow-pox matter, the local symptoms were violent, and the whole hand was covered with one pustule ; it left, however, no other scar than that of the cut. Dr Weber has seen very malignant and gangrenous sores on some of those who were infected by milking cows, although, so far as he could learn, they were otherwise perfectly healthy.

7. " *What effect has the cow-pox on those who have already had the small-pox, especially on the dairy-maids ?*"

Most of the reports agree, that those girls who have already had the small-pox, are still susceptible of the cow-pox ; but they remark, at the same time, that the local affection is much slighter, that there is no vestige of general affection ; in short, that the disease is then, in the strictest sense of the term, local. One report of a farmer states, that those who have had the small-pox are only infected when their cuticle is broken. Another mentions expressly, that two girls who had had the small-pox, were not affected by the blue cow-pox, under the same circumstances in which all the others who had not had the small-pox were infected. On the other hand, it is stated in one report, that cow-pox after small-pox, is also accompanied by fever ; but the kind of cow-pox is not specified. Dr Weber has been assured by several dairy-men, that girls who have been infected by milking are susceptible of cow-pox on other occasions, and that, not as the usual local affection.

8. " *We are assured, that, in several places of the dutchies, there are families of country people, in which, either the real inoculation of cow-pox, or at least intentional infection by milking, has for several generations*

*nerations been practised, partly as a secret for preserving themselves from the small-pox. Are there any proofs of this assertion in your neighbourhood?"*

Although the reports contain no direct answer in the affirmative, it may be concluded, from several accounts, that particular families have long availed themselves of the advantages resulting from vaccination. Thus, several instances are related, in which they intentionally exposed themselves to infection from the pustules on the cow, or even practised inoculation coarsely, and recommended it to others. It is further remarkable, in this point of view, that all the members of the family of the Inspector Carstens, from the grandfather downwards, viz. he and all his brethren, the father of Mr Carstens and his brethren, also his father-in-law and all his children, including Mrs Carstens, were preserved from the small-pox, by having had the cow-pox in their youth. Can the disease have been intentionally induced in this family? The reports in which it is mentioned, do not notice the circumstance. Lastly, Dr Heinze relates a remarkable instance which fell under his own observation, of a school-master, Plett, in Laboe, who, in 1792, inoculated three children of a farmer, called Martini, at Lammershagen, by introducing fluid matter, taken from the cow, into a wound made with a pen-knife in the skin between the fingers, and with success, as they resisted the small-pox, when epidemic there, and who was only deterred from continuing the practice, by the great swelling of the arm of the youngest child *.

9. " *Is there any positive proof, that persons having the cow-pox have infected others?"*

One instance is particularly mentioned by the Rev. Mr Holst of Kiel, and Dr Heinze, with the names of all the parties, some of whom are still alive, of a person who was infected with the cow-pox by milking a cow, communicating the disease to her sister's hand by rubbing it with her infected hand, by which means, her sister was secured against the small-pox.

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* Mr Plett is still schoolmaster at Laboe. He was teaching the children of Martini, dairy-farmer in Hasselburg, in 1792, when the cow-pox broke out among the cows and the children. On this occasion, the farmer's wife often related, that she and her brother Jansen, farmer at Poolsee, and her sister, the wife of farmer Schmidt in Jutland, had had the cow-pox in their youth, and that not only all three had never been infected with the small-pox, but, that her sister had attended her nine children ill of small-pox, without catching them. She added a wish, that her children might also take the cow-pox. The four eldest milked the cows assiduously, but only one succeeded in getting infected. The other three complained of this to their schoolmaster, which suggested to him

A second case is mentioned, of a child infected by its maid; and a third, of a child by its mother, who had previously milked a cow, without either of them having the cow-pox themselves.

The faculty take this opportunity of quoting the principal results contained in the reports, concerning the propagation of the infection, and the contagiousness of cow-pox. In the first place, the propagation of the infection among cows, is chiefly occasioned by the hands of the milkers, even when these are only soiled with the matter from the cow, and not themselves affected with the disease. This is principally proved, by the observation that cows, which immediately before calving were not milked, remained free from the disease, when it was raging among the other cows in the stable; and that they were affected with it after calving, when it appeared to have ceased among the others. The infection is also said to have been conveyed from one herd to another, by means of a towel, on which a person infected with the cow-pox had wiped his hands, or of some utensil. There are even said to be instances of the infection being communicated to a healthy herd, by their smelling the hands of persons who were attending another which was diseased. Hence, the strict separation of the healthy cows from the diseased, and precautions regarding the communication of those who attend an infected herd, with those who attend such as are sound, have long been observed in several dairies.

It appears, from several accurately detailed facts, that the abrasion of the cuticle is by no means a necessary condition for the infection of the human system from the cow, but that the infection is easier where the skin is tenderer and thinner, as between the fingers, than in the palm of the hand, where it is commonly harder and thicker. Examples are also given, where the infection was received on the back of the hand, on the face, or on the eyes, or cheeks, or under the nose; and, in one case of a child, on the *labia pudendi.*

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him the idea, that the cow-pox might be inoculated as well as the small-pox. He proposed to do this, and it was agreed to. He cut a piece of wood smooth, and gathered upon it fluid matter from pustules on the cow, and, with a penknife, made a cut in the fine skin between the fingers, where he had observed the milkers were usually infected, and applied to it the matter from his piece of wood. The inoculation succeeded with all three; and he was disposed to inoculate other children, when the arm of the youngest, a boy seven years old, became bad, and he got a violent fever, for which it was necessary to call in assistance, and which took away from Mr Plett all desire of prosecuting the practice. These children, however, escaped the small-pox then raging epidemically, as well as the danger of infection from their younger sisters and brothers, who had the small-pox in 1802.

10. " *Can the disease be reconveyed to cows by such persons?*"

The reports give no direct answer to this question; but, from what has been observed, in reply to the ninth question, there is no reason to doubt the fact.

11. " *Was the matter for inoculation always taken from the cow, or from persons who were inoculated; and did the same effects always follow?*"

It appears that, previous to the discovery of Dr Jenner, in all intentional inoculations of the cow-pox, the matter was taken from the cow.

12. " *Does an idea prevail among the country people, that cow-pox derives its origin from the grease* (Mauke) *in horses?*"

Except one, all the reports answer in the negative. Several of them detail facts which seem to render such an origin improbable. Amongst them are instances related by Mr Kahn, a veterinary surgeon, which fell under his own observation, and in which the most favourable circumstances occurred for the infection of cows directly by greased horses, as well as indirectly, by means of persons who, after dressing the horses' heels, milked the cows, without a vestige of cow-pox appearing on the cows; also the observation of the Privy Counsellor Von Thienen, that, on his estates, which are very wet, the grease is very frequent, while the cow-pox, in a period of 40 years, has appeared on some of them only once, and on others not at all; these marshes, and some other situations, where the grease is very common, being free from the cow-pox; the frequency of cow-pox in Holstein, where the milkmaids have no connexion whatever with the horses, &c. With all this, the following account, communicated by Mr Fries, surgeon in Preetz, is at direct variance. He was informed, by a veterinary surgeon of the name of Brasch, who lived upon the estate of Rixdorf, of the extraordinary circumstance, that the dairy-man at Tresdorf, below Rixdorf, had a newly foaled mare, so very ill with the grease, that at last the udder was affected to such a degree, that the foal could not suck her any longer. He, therefore, ordered one of his maid-servants to milk the mare daily, and every day, after milking her, to rub her hands with some ointment. This girl also milked the cows; and, in a short time, the whole of them were affected with cow-pox, of which there did not previously exist among them the slightest appearance.

If this information be correct; was the disease which affected the udder of the mare, and is not more circumstantially described, really *Mauke?* Was it the only instance of that disease of horses, which the English call *grease*, and which, according to more recent observations *, under certain circumstances, is capable of producing cow-pox on cows and men? or, was the cow-pox-epidemic, merely an accidental occurrence, and not at all connected in the way of causation with the disease of the mare?

## XI.

## *Case of Femoral Aneurism, reaching as high as Poupart's Ligament, cured by tying the External Iliac Artery.* By JOHN ABERNETHY, Esq. F. R. S. Surgeon of St Bartholomew's Hospital.

CONCEIVING it right that the particulars of the following case should be laid before the public without delay, I send it to be inserted in your Journal. It is the third instance in which I have been called on to tie the external iliac artery.

The first operation I was urged to perform by the impulse of the moment, as the death of the patient from hemorrhage would have been otherwise inevitable. In this case, I am inclined to believe that I disturbed the peritonæum too much; and that I tied the artery higher up than was necessary. The limb, however, did not appear to suffer from it; but the vessel ulcerated. Indeed, from the reduced state of the patient's health, and the additionally unfavourable circumstance of some degree of disease existing in the external iliac plexus of glands, expectations of success could scarcely have been entertained. This case is related in the Third Part of my Surgical and Physiological Essays.

In the second case, the limb was not only as little affected by this operation, as when the vessel is tied much lower down; but the arteries healed firmly, and the ligatures came away. The operation was completely successful; but, in consequence of the putrefaction of blood in the aneurismal sac, the patient died in three or four weeks afterwards. This case is related in the First Part of my Surgical Observations; and I there expressed my opinion, that the facts contained in these cases afforded reasonable expectations of success in future operations of this kind.

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* Neues Hannöverisches Magazin, 1800. No. 87. 88.

With these facts in my remembrance, I could not but attempt a similar operation, in a case by no means favourable, which was lately admitted into St Bartholomew's Hospital, of which I subjoin the following narrative :

Jane Field, aged 40, who had been in the habit of drinking to excess, was admitted into St Bartholomew's Hospital, with a very large femoral aneurism, reaching as high as Poupart's ligament. The whole limb was œdematous, but in no very considerable degree. She was quite incapable of using the least exercise, or of sitting upright ; and, even in bed, she suffered continual pain, which was much aggravated during the pulsation of the aneurism. The pain was so violent as to preclude sleep. She had no appetite ; her pulse was feeble and frequent, generally exceeding 100 ; but her tongue was not furred ; and her bowels were regular.

On Saturday, 11th October, the operation was performed in the same manner as in the last case. An incision, about three inches in length, was made through the integuments of the abdomen, in the direction of the artery, beginning just above Poupart's ligament. Having divided the skin and aponeurosis of the external oblique muscle, I introduced my finger between the margin of the internal oblique and transverse muscles and the peritonæum. I then divided their lower edges upwards, in the direction of the external wound, to the extent of an inch and a half, with a probe-pointed bistoury. Having thus made room for the admission of my finger, I put it down upon the artery, felt its pulsations, and gently insinuated it beneath the vessel ; and then, with the aneurismal needle, passed under it two thick ligatures, carrying them upwards and downwards, as far as the detachment of the artery permitted, and tying them as firmly as I could. I next divided the artery in the interspace, but much nearer to the lower ligature than to the upper one. The wound was afterwards closed, in the middle by a ligature, and in other parts by sticking plaster. Upon removing the patient to bed, she complained of great pain in the wound, and in her head; and was very restless and ungovernable. She wished for something to procure sleep, and I gave her 25 drops of laudanum. This, instead of having the desired effect, made her much more restless ; she was continually changing her position in bed, and complaining of violent headach. At night she became more tranquil. The one foot was much colder than the other ; but the limbs at the knees were nearly of an equal temperature.

Sunday, 12th, I visited her early in the morning, and found that she had been moderately quiet during the night ; that she had suffered much pain in her foot, but none in the wound. The pain in the limb she described as having first attacked the thigh, next the leg, and afterwards the foot, which last pain had now ceased. The foot was warmer than it was the preceding evening, and in a state of perspiration: it was four degrees of heat lower, by Fahrenheit's scale, than that of the healthy limb. The superficial veins of the leg were filled with blood. Her pulse was 96. She had no appetite. I left her with a promise to visit her again at night, recommending her to lie quiet, and take some simple nourishment. About noon, one of the dressers, observing that her skin was hot, and the tongue dry, gave her some saline medicine, with a small quantity of antimonial wine, which occasioned vomiting, and such continued nausea, that she refused all kind of food. The limb, at night, continued in the same state as in the morning. She was free from pain; her pulse 120. As she had had no evacuation, I gave her a pill, containing 2½ grains of *pil. aloet. e myrrh.* with the same quantity of colocynth, ordering it to be repeated in the morning, if necessary.

Monday, 13th, The foot was nearly of the same temperature with the other. She had two stools, and felt much more comfortable. Still, however, she had an aversion to all kinds of nourishment. Her pulse was 150 and 160, at different times of the day. I may here mention, that every subsequent day, she had one or more stools, without having recourse to opening medicine; and whenever she was more irritable or disturbed than usual, she had a tendency to purging. In the evening of this day, I inquired if she had a wish for any particular kind of nourishment; and, at her suggestion, gave her half a pint of porter, with some ginger and toasted bread. This seemed to agree with her stomach, as she slept the whole night, and awoke much refreshed the next morning. Her tongue was then clean; she took some tea and muffin for breakfast, and broth and bread, in moderate quantities, in the course of the day. Half a pint of porter was allowed her at dinner and supper. Her pulse this day, (Tuesday) was 95. The foot warmer than the other. The wound was dressed for the first time, it appeared well closed, and discharged but little. Wednesday, Pulse about the same number; had slept during the night, but not so soundly as on the preceding one. The wound and contiguous parts were tender; there was a considerable discharge, which was fetid; the lower ligature came off the artery. The artery, as I have mentioned, was divided very near to the lower ligature; and it is probable, that, in the restlessness of the patient, subsequent to the operation, the motions of the limb had drawn the artery from out of the ligature*.

Thursday, The wound very tender, and the skin had inflamed very much; pulse 84.

Friday, The discharge from the wound less in quantity, and more puriform; pulse the same in number, but very feeble.

Saturday, The patient had been seized in the middle of the night with severe headach and shivering, and in the morning she could eat no breakfast. Her tongue was rather dry, and slightly covered with a brown fur; pulse 95, and feeble. Half a pint of wine was allowed her in sago, in addition to the porter; and she took the *infus. menth. vitriol.* of the Hospital, with some tincture of gentian.

Sunday, She was much better; tongue moist and clean, and her appetite much improved. She disliked the bitterness of the medicine, peppermint-water was therefore substituted for the common mint-water, and the tincture of gentian was omitted; pulse 82; skin cool.

Monday, In the same state as yesterday; granulations appeared in the wound below the ligature, which closed it in the middle. This part of the wound is now about an inch in breadth, and a third more in length. The wound above the ligature about one fourth of an inch across; and the new flesh, by which it is united, of a tawny colour, and flabby texture. The surface of the skin, to a considerable extent from the wound, red and excoriated.

Tuesday, She had a return of headach, with loss of appetite; her pulse 96. There flowed from the wound a considerable discharge, of an offensive smell, and seemingly irritating to the skin over which it passed. She complained of having had a restless night; and observed that, in general, she found herself well or ill, as the preceding night had passed comfortably or

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* I have never made use of the expedient suggested by Mr Henry Cline, for securing ligatures upon arteries, since I never felt its necessity; and because I have always thought it right to tie a large artery with so thick a ligature, that it would have been unsuitable to the practice which he has recommended. One advantage arising from tying a large artery with a thick ligature is, that it may be drawn as tight as possible, without apprehension of cutting the vessel, or of its speedily coming off from it. Should I, in any future instance, think it right to oppose any mechanical obstacle to the ligature's coming off the vessel which it encircles, I should do it in the following manner, which, by way of suggestion, I take the liberty of mentioning. Having tied a large knot at one end of a small thread, I would pass it, by means of a common sewing needle, through the middle of the artery, in front of the ligature which encircles it; I would then form a second thick knot on the thread, close upon the surface of the vessel. These two knots, would, I think, present a considerable obstacle to the slipping of the circular ligature from off the end of the artery.

or otherwise. Thinking it probable that the irritable state of the wound might contribute, in a great measure, to prevent her from sleeping, I dressed it with an aqueous solution of opium, and smeared the excoriated skin with lard, to prevent the acrimonious discharge from affecting it. All appearance of granulations in the wound had vanished. I ordered her 15 drops of laudanum in her night draught; and, instead of the *infus. menth. vitriol.* I gave her *decoct. cinchon.* ℥ij, with ʒj of *tinct. card. comp.* every four hours.

Wednesday, She had had a comfortable night, with much sleep; her pulse 80. The wound greatly amended. The discharge puriform, less fetid, and smaller in quantity. The new flesh above the ligature florid; and granulations appeared again on the sides of the wound, below the ligature. The same treatment was continued.

Thursday, She had not rested so well, and complained of headach. The wound, however, was rather better than on the preceding day. I cut out the ligature which closed the wound in the middle, thinking it might tend to keep up irritation. She attributed the pain in her head to the opium she had taken; to ascertain this point, I ordered the dose to be increased to 25 drops.

Friday, She had slept well, and was free from headach; her pulse under 80. This day, the ligature, from the upper part of the artery, came away with the dressings. The excoriated skin had healed; the redness was inconsiderable. The wound, in every part, had a healing appearance. It seems unnecessary to detail particularly the subsequent part of the case. She was kept in bed to the end of the third week, when she was allowed to sit up, that her bed might be made. I thought this caution requisite, from knowing that ligatures are detached from arteries before the sides of the vessel are united. I also confined her to bed during the whole of the fourth week; but advised her to move the limb about frequently. The wound healed like a healthy wound; and was nearly closed in a month after the operation. During the third week, when the wound no longer proved a source of irritation, her pulse did not exceed 75 strokes in a minute; it was generally lower, and once I found it to be only 68. At the expiration of the month, she got up daily, and walked about the ward; although, on her admission into the Hospital, she was incapable of walking at all. There was not the least œdema of the limb. Its circumference, at the calf, was but one third of an inch less than the opposite side. Having walked many times the length of the ward, she became tired, and thought that the limb which had been operated on, felt more fatigued than the other. The aneurismal tumour remains at this time of a considerable size. It is certainly more than one third less than at the time of the operation. I have related the case thus particularly, in order that the reader may judge of it for himself. To me it appears, from this and the former cases, that, in an advanced state of femoral aneurism, the artery may be tied above Poupart's ligament, with as little detriment to the circulation of the limb, as in other cases of aneurism, where the operation is attended with very constant success. The symptoms immediately subsequent to the operation, appear to me to have arisen entirely from the irritable and weak state of the patient. She had pain in the head from the operation; and so she had afterwards, whenever her health was disordered by irritation. Her pulse, prior to her taking the medicine which acted as an emetic, was 96; but the subsequent day it was 150 or 160. This appears to be the result of the state of the stomach, for that becoming tranquil, the pulse was again reduced to 95 or 96. In a constitution so weak and irritable, a wound was not likely to heal kindly; and all the subsequent circumstances of the case are satisfactorily explained, as the effects of an irritable wound, acting upon an irritable constitution. Upon the wound becoming healthy, at the expiration of a fortnight, all variations of the constitution ceased. I cannot, therefore, but consider the perplexing circumstances that succeeded the operation, as the effect of the patient's peculiarity of constitution, and not as arising from the operation merely, or from the state of the limb consequent to such an operation. A similar operation has lately been performed by Mr Frere of Birmingham, with success. The patient being healthy, the wound healed without difficulty.

Cases of femoral aneurism, reaching as high as Poupart's ligament, are not such extremely rare occurrences, but that there may be some persons at present suffering from this disease, and whose lives might perhaps be preserved by an operation. This consideration makes me desirous that the circumstances of the present case may be made public as soon as possible; and, by inserting it in your Journal, you will oblige, your obedient servant,

*London, Nov.* 1806. JOHN ABERNETHY.

# XII.

## *Observations on the Epidemic Ophthalmia, as it affected the Troops in Hythe Barracks.* In a Letter from GEORGE PEACH, Esq. Surgeon of the 2d Battalion 52d Foot, at Reading-Street Barracks, Kent, to JAMES M'GRIGOR, M. D. Deputy Inspector-General of Hospitals, Portsmouth.

SIR,

I SOME time ago gave you a short account of the Ophthalmia, which has so very long continued in, and has proved so destructive to, the 2d battalion of the 52d regiment. Having, since that time, seen much more of this disease, and knowing your wish for information on this subject, I will, as well as I can in the limits of a letter, give you some account of the Ophthalmia, as it has appeared in this regiment.

The disease seems to be the very same as that which appeared in our army in Egypt; it differs from common ocular inflammation, in *the suddenness and severity of the attack, the tendency to inflammation of the globe of the eye, the almost uniform first sensation of sand rolling in the eye, and in the method of cure required.*

The 2d battalion 52d regiment, composed mostly of volunteers from the Irish Militia, was in Hythe Barracks, when 500 volunteers joined from Ireland. At the time they joined, there was no ophthalmia in the 52d regiment, in our brigade, or, so far as I could learn, in any regiment near us. Soon after the junction of the body of volunteers, in July 1805, two cases of ophthalmia were found among them. The first case I saw, was Hugh Boyle; this man came from the Londonderry militia, where, he told me, a great number of the men had bad eyes. I have since learned, that the Londonderry militia had got the disease from the 79th infantry, who, immediately on their arrival from Egypt, were put into the same barracks with the Londonderry militia. Boyle had had the disease very severely in the militia; his eyes appeared extremely weak, when he joined the 52d regiment, and I placed him in the sick-list as soon as I saw him.—About the same time, I detected the disease in Neil M'Kay, who came from the same regiment as Boyle.

Many of the men had had the disease in Ireland, several months before they joined us; indeed some of them had been in Egypt, and had the disease severely there.

In June and July 1805, many predisposing and exciting causes of ophthalmia existed at Hythe. I need not inform you what regularity and subordination exists in a corps while volunteering for general service goes on, and every soldier has ten guineas to get rid of.

Recruits, and young soldiers at frequent drills, were exposed, for a great part of the day, to the heat of the sun. From the situation of Hythe Barracks, the men found the dust very troublesome, in the windy weather which we then had. I believe, I need not adduce more occasional causes of this disease.

The disease appeared in its most severe form in the months of November and December; by March and April 1806, I thought it appeared in a milder form, though a great many cases crowded on us.

Every mode of prevention which occurred to me to recommend, and every attention on the part of the officers, having hitherto failed to check the progress of the disease, by the advice of Dr Hussey, General Inspector of Hospitals of the district, the quarters of the battalion were changed, and, on the 8th of May last, the regiment marched to Reading-Street Barracks.

The adopting this measure gave me inexpressible delight; and I thought the movement had perfectly separated us from our cruel tormentor; but a short time shewed me how ill founded my hopes were; for the first three days we had no appearance of recent ophthalmia; on the fourth day, however, one case appeared; on the fifth, four cases appeared, and I found every case in the hospital was worse. I then determined to have a minute inspection of the whole battalion; and I took no less than 150 men from the ranks, whose eyes appeared in some degree or other unsound.

Most of the cases, however, were slight, and readily yielded to us, if we detected them in the first stage of the disease. In this stage, the patient complained of being suddenly seized with a rolling of sand in his eye; the vessels on the albuginea became suddenly turgid with blood, and the lower palpebræ became very vascular.

If very active measures did not arrest the progress of the disease, the second stage appeared, when the *palpebræ superiores* became very much enlarged; the eyelids were opened with extreme difficulty; and then flows either a scalding fluid, which excoriates the face, or there is a great discharge of thick yellow matter. It is here in our power, frequently, to stop the progress of the evil; but, if the most decided and active practice is not adopted, the disease reaches the third stage, when seldom any thing is of avail to relieve the most distressing sufferings; the cornea becomes ulcerated,—the eye becomes ruptured.

I some time ago thought this disease ungovernable. On the first appearance of the disease, I used venesection and the antiphlogistic treatment. Being unsuccessful, I gave trial to bark and stimulants; but, being still more unsuccessful with this mode of treatment, I reverted to the antiphlogistic in its fullest extent, and with the greatest success. To my infinite satisfaction I have discovered, that I did not formerly succeed, because I did not carry this mode nearly far enough.

It is in the commencement of the disease, that a very large quantity of blood should be abstracted; in that stage, large venesection, even *ad deliquium animi*, is almost an infallible remedy. It is not sufficient to abstract 20 or 30 ounces of blood. I have taken 60 ounces very frequently; enjoining perfect rest; avoiding the smallest portion of animal food; and putting in practice every other part of the antiphlogistic treatment. Relapses occur very frequently in this disease, but I have learned to prevent them; as often as the disease, or even the slightest pain or uneasiness in the eye returns, so often do I return to the lancet. This practice, I fancy, would astonish the experience of civil life, but the fullest trial of it has demonstrated to me its propriety. In many of the cases which occurred to me, the progress of the inflammation was so rapid as to threaten the total destruction of the eye, if only the ordinary mode of treatment in ophthalmia was resorted to. I would advise particular attention to be paid to the first sensation of sand in the eye. I never defer venesection when this is complained of; and the patient, in general, finds so much advantage during the operation, that he says the sand is removed. I have, with advantage, dropt the undiluted *aq. lith. acetat.* into the eye; though at first it occasioned great pain, in some instances it proved of service; but, in general, I have come to the conclusion, that dropping substances into the eye is not serviceable; since we desisted from dropping *tinct. op.* into the eyes, we have had fewer cases of inversion of the eye-lids.

The bowels must be always kept loose; and it has often been found serviceable to shave the head, and keep it continually wet with water or vinegar. Blisters are sometimes called for; but the great reliance is to be placed on the strictest antiphlogistic regimen, and very liberal venesection.

However sanguine I may have expressed myself in the mode of treatment which I have at length adopted, it is my duty to confess that, in every instance, I have not succeeded with it; sometimes the patient has lost an eye in spite of all our efforts. I must still further inform you, that, after one or both eyes have been lost, very often the patient has recurrence of pain; and it is the observation of my very able assistant, Dr Vetch, that, in a majority of cases, this pain observes regular intermissions.

On the first attack of this disease, I conceive it to be entirely local, neither the circulation, nor any particular function, (the eye excepted) being changed from the healthy state. It is only subsequent to the attack in the eye that the circulation becomes quickened, and the secretions affected.

The total strength of this battalion is 691, out of which number, including relapses, 733 have had the disease; some slight recurrences of those obviated by venesection, are not included. Fifty men have lost the sight of both eyes, but I have no doubt, that of these several will recover; we have some instances when both corneæ were opaque six months ago, being now almost transparent.

Forty men have lost the sight of one eye; and we entertain hopes of effecting cures in some of them. The perfect cures amount to 404; and there are 213 cases at present under treatment.

The disease has occurred only in two officers, both of whose servants had the disease a short time before.

The other regiments with us in Hythe likewise suffered considerably from ophthalmia, viz. the 43d, and Rifle Corps. I have not learned that this disease has committed such ravages in any other quarter of the kingdom, unless in the garrison of Colchester, where the 20th regiment has suffered nearly in the same proportion as we have.

19*th July* 1806.

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The enclosed letter of Surgeon Peach came to me some time ago. It gives an account, for one year, of the progress which ophthalmia made in the 2d battalion of the 52d regiment, a corps where it appeared, I believe, as early, and with more severity, than in any other.

As giving an account of a disease, which is daily extending its ravages through the army, and, if not checked, may cripple our navy and army, this statement cannot be too widely or quickly diffused.

The practice, at length so successfully had recourse to by Mr Peach and Dr Vetch in the 52d regiment, has, I know, been eminently successful in other quarters, particularly by Mr Reid in the 89th regiment, and by Mr Waugh in the 8th Veteran Battalion. I am, very truly, yours,

James M'Grigor.

*Portsmouth, 2d Nov.* 1806.

## XIII.

## *Observations on the Effects of Evacuating the Aqueous Humour in Inflammation of the Eyes; and on the changes produced in the Transparency of the Cornea, from the increase or diminution of the Contents of the Eye-ball.*

By James Wardrop, Fellow of the Royal College of Surgeons of Edinburgh.

Dr Barclay, some years ago, when injecting a bullock's eye with mercury, observed that the cornea suddenly assumed a milky colour; from which he concluded, that the fluid had filled its vessels. On handling and pressing the eye-ball afterwards, the cornea soon regained its transparency; and he was led to infer, that the injection was forced back by the pressure, and by the elasticity of the vessels. Wishing, however, to possess a preparation, with the vessels of the cornea injected, he took another eye; and, while removing the muscles, he found, that the appearance observed from the injection was in reality occasioned by the pressure pushing forward the humours, and distending the cornea. This opinion was further confirmed, by the same opacity being produced when he injected the blood-vessels with pure water; and also by the following simple experiment: If the eye of a sheep or ox be moderately squeezed in the hand, the whole cornea instantly becomes cloudy. When the pressure is increased, the obscurity increases; and, if it is still increased, the cornea becomes of such an opaque milky colour, that the iris cannot be distinguished through it. Whenever the pressure is removed, the cornea completely regains its transparency, and appears as if no such experiment had been made. From this curious phenomenon in the dead eye, it was evident, that, in the living body, the transparency of the cornea might vary according to the degree of its distention; and that, in cases of opacity of the cornea, accompanied with fulness of the eye-ball, its transparency might be restored by the evacuation of the aqueous humour. I had reason to think that there was little danger of this operation producing any disagreeable symptom, being aware that the cornea has but a small share of sensibility in the natural state; and that incisions made into it, during various operations, produce almost no pain, and are followed only by a very slight degree of inflammation. I mention this, in order that the practice which is recommended, may not be abandoned from any preconceived notions of its severity.

A favourable case for the trial soon occurred to me, where there was a very considerable degree of milkiness and opacity of the cornea, and in which the eye-ball appeared distended and prominent, attended, at the same time, with acute inflammatory symptoms. In this case I discharged the aqueous humour by a small incision; and I had the satisfaction to find, that the operation produced not only an alteration in the degree of the transparency of the cornea, but an abatement of the pain attending the disease, and gave a sudden check to all the inflammatory symptoms. From the success of this case, I was induced to perform the operation in others, not only with a view of diminishing the opacity of the cornea, but in order to alleviate the symptoms of inflammation. I shall now relate some of those cases which are most remarkable, and which most strikingly illustrate the good effects of the practice I propose.

### Case 1.

*March* 1806.

A gentleman, about 21 years of age, had a very violent inflammation of the left eye-ball. The *sclerotica* was covered with numerous scarlet coloured blood-vessels; but none of them passed over the transparent cornea. The anterior chamber was turbid; and several small spots, of a matter resembling pus, were seen in it, towards the circumference of the cornea. The pupil was much contracted, the eye-lids swelled, and their external surface covered with varicose veins. There was a constant flow of acrid tears. Vision was almost entirely destroyed; but, notwithstanding, the eye was extremely sensible to light. He had great pain in the eye-ball, and constant headach, with a sense of fulness in the orbit. The inflammation had begun five weeks before, without any known cause, and every symptom had since gradually increased. I made an incision with an extracting-knife through the cornea, and the aqueous humour spirted out. From the difficulty in securing the eye-ball, the pressure employed gave considerable pain. The incision smarted for two or three minutes; but, before I left the room, he said he found great relief, and that the pain in the eye-ball and head, and the peculiar feeling of weight and distension were entirely removed. On examining the anterior chamber, all the turbidness had disappeared, and the cornea seemed perfectly transparent. He was advised to do nothing but foment the eye and the neighbouring parts, and to take a purge. As he lived at some distance from town, I had no opportunity of visiting him afterwards; but I was informed by Dr Mitchell of this place, with whom I had seen him, that an hour after the operation, all the pain, occasioned by the incision and the pressure, was entirely gone, and the eye had become quite easy. In two days all redness went off, and Dr Mitchell, who saw him five days afterwards, said, that he could not discover the mark of the incision; that the inflammation had disappeared; and that his vision was nearly as perfect as it had been before the commencement of the disease. Some months afterwards, I heard that he continued perfectly well.

### Case 2.

A young man, seventeen years of age, had been subject to repeated attacks of deep-seated ophthalmia, which had yielded chiefly to anodyne applications. On the 28th of March 1806, his left eye was again attacked with a violent inflammation; and I saw him the following morning. The sclerotic coat was interwoven with numerous blood-vessels. The iris was much contracted; and the cornea remained transparent. There was an increased flow of tears; extreme sensibility to light; and great pain in the eye, accompanied with a sense of distension. I evacuated the aqueous humour, as in the former case; and advised afterwards, the use of fomentations. The operation gave him very little pain: and on the following day there was no mark of the incision; the pain was much abated; and the sensation of fulness entirely gone. The redness of the sclerotica lasted for several days; and he had for some time a tenderness in both eyes; but neither the pain nor the sensation of distension returned.

### Case 3.

*August* 28*th* 1806.

A sailor boy, thirteen years of age, felt an itching sensation in his right eye, which, by constant rubbing, became red and painful. About eight weeks after, he was at sea in a storm of thunder and lightning, which increased the inflammation. The left eye also, at that time, became affected. I saw him about ten weeks after the first attack. The anterior chamber of the left eye had become dull and cloudy; and there were three or more milk-white spots on the cornea, of the size of a pin's head, perfectly round, and distinctly circumscribed. The pupil was a little contracted; and there was only a very slight redness of the sclerotica, near to its union with the cornea. There was also a general cloudiness of the cornea of the right eye; and, on the inferior part of it, there was a speck of considerable size, with several red vessels ramified through it. There were also some small opaque circular specks on different parts of the cornea. The blood vessels were more numerous on the sclerotica of this eye than of the left. Exposure to light gave him acute pain in both eyes, and made them gush with tears. He had violent pain in both eyes, but particularly in the right; and he described the pain as having been extremely severe the day before, through his whole head. He also felt a sense of distention or weight over the eye-brow, and had a little general fever. A by-stander observed, that his eyes appeared too full; I made an incision into the cornea of the left eye, and the aqueous humour spirted out forcibly. The operation occasioned smart pain for two or three minutes, similar to that produced by dropping the vinous tincture of opium into the eye. A little blood afterwards appeared in the anterior chamber, which was effused in consequence of the division of the red vessels which entered the cornea. The operation was afterwards performed on the right eye, and it caused more acute pain than in the left, for the incision was made through a cornea which was highly vascular, and had acquired a morbid degree of sensibility. In a few minutes, all the pain which he conceived to arise from the cut, went away; and the uneasy fulness and distention in both eyes were greatly diminished. He was ordered to use fomentations, and to take a purgative medicine. I saw him three days afterwards: he had no return of the pain of the eye or head: he could endure the light; and his vision was so perfect, that he walked two miles, and could distinguish readily, and without uneasiness, all objects around him. The opacities of the cornea of both eyes were greatly diminished; and there was very slight redness of the sclerotica.

### CASE 4.

*July* 1806.

A healthy looking man, 45 years of age, had inflammation in both eyes for six weeks, which began after the abatement of a violent pain of his head. There was a general cloudiness of the cornea of the left eye. The iris could be distinguished but indistinctly. There were numerous vessels on the white of the eye; and they formed clusters on different parts, giving it a mottled appearance. The eye looked unnaturally dry; and there was no intolerance of light. The disease in the right eye had the same appearances; but the cloudiness was limited to two-thirds of the cornea; and the red vessels were not so numerous as in the left. The vision of the left eye was almost entirely destroyed; and with the right one, every object appeared as if seen through a mist or smoke. Both eyes looked full and prominent. An eye-water, of corrosive sublimate, and the application of an ointment composed of the red oxyd of mercury, diminished, in a few days, the inflammation and opacity of the right eye. The obscurity of the left cornea, however, increased, so that the iris and pupil were very indistinctly seen through it. I perforated the left cornea with a spear-pointed couching-needle, and immediately it appeared clearer to several by-standers. The operation was attended with no pain, neither was it followed by any inflammation. He afterwards used a wash of the nitrate of quicksilver, and the cornea soon regained its transparency. The pupil, however, remained a little irregular, with a slight dimness behind it; and objects appeared with this eye as if through a mist. By the external application of sulphuric ether, the dimness disappeared; and I saw him eight months afterwards, when he told me that he then saw as well as when he was a boy; for he had been short-sighted before his eyes became inflamed; and probably the operation may have diminished the natural convexity of the cornea.

These are the most remarkable cases which I have met with, where the evacuation of the aqueous humour was followed by a sudden and permanent abatement of the inflammatory symptoms; and in the two last cases, it may be observed, that it also diminished the opacity of the cornea. I have also performed the operation in a few cases where the inflammation was not severe. In these it was not followed with so marked an abatement of the symptoms; but in none did it increase the inflammation, or was it followed by any disagreeable consequence. In other cases, in which I have performed it, I had no opportunity of observing the patients with that attention afterwards, as to be able to draw up the cases for public inspection.

I have, in several instances, evacuated purulent matter, collected in the anterior chamber, and necessarily, along with it, the aqueous humour; a practice which has been strenuously recommended by some, and as much condemned by others.

I have observed it invariably followed by a sudden abatement of pain, and every other symptom of inflammation; so that, in all cases where there is even the smallest quantity of pus, accompanied with symptoms of violent inflammation, I would, without hesitation, discharge the contents of the anterior chamber. It is highly probable, that the success which attended this practice, in the hands of those who have recommended it, may be accounted for, from the effect produced by the discharge of the aqueous humour alone *.

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* The ingenious Mr Ware of London has recorded the case of a lady, who had symptoms of amaurosis, accompanied by very violent pain in the eye-ball, when, by making a perforation through the sclerotic coat, he evacuated a considerable quantity of a yellow fluid, which had collected between the choroid coat and the retina; and this operation was followed by a sudden abatement of the excruciating pain which accompanied the disease.

I will not pretend to explain the *modus operandi* of this operation; but I think it probable, that the great and immediate relief which it affords, chiefly arises from the sudden removal of tension. The pain accompanying inflammation in other parts of the body is, in general, in proportion to the degree of tension and resistance of the contiguous parts; and it is well known how much relief is given in deep-seated inflammation, such as inflammation of the periostæum, or in whitlow, by making a free incision through the skin and external parts.

The mode of performing the operation is very simple. The chief difficulties generally arise from the irritability of the eye, rendering it troublesome to be kept steady; but these are to be overcome by attending to the rules generally recommended in the operation of the extraction of the cataract. The incision may be made with a small extracting-knife; and if it is oiled, it cuts much keener. It is sufficient to introduce the knife into the cornea, so as to make an incision its own breadth, at the usual place of making the incision for the extraction of the crystalline lens; and by turning the blade a little on its axis, the aqueous humour flows out along its edges.

There is an observation which may be mentioned in this place, as it may illustrate the remarks which have been made on the changes which take place in the cornea of the dead eye, from alterations in its tension. It is well known to those who are employed in the management of sheep, that if they have been much fatigued, or have made long journeys, that they are subject to a species of blindness, produced from an obscurity of the cornea.

From the accounts I have been able to collect, the disease comes on in a very short time, in one or two days; and it is attended with little apparent inflammation. I have only had one opportunity of seeing the animal afflicted with this complaint. Both eyes were equally affected, and the corneæ were very opaque; in some parts of a shade as deep as the sclerotic coat. There was very little appearance of inflammation, either of the eye or eye-lids, and the animal did not seem to suffer pain or uneasiness.

The treatment generally employed by shepherds, for the cure of this species of blindness, is opening a vein on the inferior part of the *orbit*, and allowing the blood to flow over the eye-ball. Generally, in a few days after this operation, the cornea regains its transparency, and vision is restored. I have also been informed by Mr Smith, that it is by no means unusual for horses, such as *hunters*, who have been all winter fed in stalls, to become blind for two or three days after they are put out to grass. This, he supposed, might be accounted for, from the change of posture of the heads changing the quantity of blood going to the eyes, and consequently, an alteration in the tension of the coats.

*Edinburgh, 21st Sept.* 1806.

# THE INQUIRER. No. VIII.

*On Dentition, considered as a Cause of Disease in Children.*

THERE is no subject, on which I find practitioners of the present day less agreed, than on the relation between the process of dentition, and the diseases of children. On the one hand, there is hardly a derangement of the health of children, during the period of teething, which has not been attributed to difficult dentition. And physicians, as well as nurses and mothers, have delivered themselves very generally and vaguely on this subject. Teething has been with them a convenient word, which explained every thing, and saved the trouble of a nicer nosology. A child is fretful, restless, hot, and feverish, loathes its food, or rejects it by vomiting,—it is nothing,—the child is only teething; he languishes under an obstinate bowel-complaint, and is still teething; or he is suddenly cut off by a convulsion fit, and mother, nurse, and doctor tell us, the child died teething. On the other hand, if the multitude, learned and unlearned, be still disposed to attribute so much to difficult dentition, considering it as a disease *sui generis*, or at least as the cause of almost every infantile disorder; there are a few who have gone into the other extreme, denying that dentition is ever the cause of any of these diseases. It was indeed easy to demonstrate how much the agency of dentition, in the production of disease, had been overated; how erroneous the nosology, and how dangerous the practice must be, if founded on the doctrine in all its extent; how futile and inconsistent if it is not. But they have pushed the argument, I apprehend, too far, who have thence concluded that dentition is never a cause of disease.

Dentition, they contend, is a process natural, gradual, and easy, inadequate to the production of disease, and producing none. Those who have considered the shooting tooth as a foreign body, forcibly making its way, stretching, vellicating, and tearing asunder the sensible and tender gum, have erred. Dentition is, on the contrary, nothing more than the natural and easy growth and developement of a pre-existing organ; and, while the tooth rises, the gum, by a wise and beautiful provision of nature, is removed to make way for it. All which is accomplished in a slow and gradual manner, without difficulty, without pain, derangement, or disease.

With regard to those diseases which have been attributed to difficult dentition, they observe, that not one is peculiar to the moment of teething, or constantly connected with that process: that by far the greater number of children cut their teeth without being subjected to any illness or indisposition: that those disorders which do sometimes coincide with the periods of teething, are daily observed to occur also in children who are not teething, but from causes of more constant operation sufficiently evident and demonstrable; and that it is contrary to a well-known maxim of philosophy, to assign more causes than are sufficient to explain the phenomena: that even when those diseases have the appearance of being connected with dentition, when they occur in children who are actually teething, it is no unusual thing to see the suspected teeth make their appearance, without any relief, or change in the symptoms of the disease, which, on the contrary, often continues its course as before; and that no better success having attended the practice of scarifying or slitting the gums, so as to give every freedom to the rising tooth, in such cases they had abandoned the operation from a conviction of its futility, and scorned a source of revenue, derived from vulgar opinion and prejudice only; and, lastly, that these diseases occuring during the time of dentition, as they do not differ from the same diseases arising at any period of infancy, demand no peculiarity of treatment, but yield to the means commonly found useful in similar cases, totally unconnected with difficult teething.

This manner of reasoning is specious. It has accordingly influenced the opinions of some highly respectable practitioners. The facts, however, are somewhat perverted, and the inferences are, for the most part, hasty and inconclusive.

Dentition is not always so easy, so undisturbed a process, as it is here represented. A very great proportion of children suffer more or less while cutting their teeth. And the slight disorder which takes place at this period, is characterized by very unequivocal symptoms of sensitive irritation. The child is fretful; the mouth is felt by the nurse to be unusually hot; there is, at the same time, an increased flow of saliva; the gum covering the rising tooth is tense and tumid, it has often an inflamed appearance, or a higher colour than usual, with a paler spot in the middle; the child bites and tears the nipple, or the hands are constantly carried to the mouth, and the child seems gratified when the gums are rubbed. Often this slight and very common disorder, which hardly deserves the name of disease, proceeds on further: it terminates with the appearance of the tooth above the gum. But the same disturbance shall be again and again observed in the same child, at the cutting of each successive tooth. I need not surely stop to prove, that this trifling disorder, so well known to every mother and nurse, is connected with dentition. Every symptom is directly referable to local irritation, limited to the mouth and gums. And it may justly be inferred, from this simple statement, that what is called the cutting of the teeth, is often accompanied by irritation and painful sensation in the contiguous parts. The local irritation is sometimes much greater; the gums inflame and ulcerate; they have even been observed in a gangrenous state. But these are rare occurrences. More frequently the gingival irritation is communicated to other parts by contiguous sympathy; the mouth is hot; the saliva flows copiously; the cheeks are flushed, sometimes that one only most contiguous to the rising tooth; the tongue is spotted with small *aphthæ*, and *strophuli* (tooth-rash), appear on the surface. And sometimes, to these appearances of local irritation, there is joined more or less of symptomatic fever, characterized by heat of the skin, frequent pulse, and watchfulness.

This is the most simple form of *dentitio difficilis.* The disorder is confined to the seat of irritation; and as yet, no other function is affected, and no other disease produced or imitated. But there are other diseases, attributed to teething, which certainly do not differ materially from those common to children who are not teething, and which more commonly proceed from other causes. Of these diseases, the principal are fevers, bowel-complaints, convulsions, and marasmus, which in children, originate, for the most part, from irritation in the *primæ viæ*, from errors in diet, defective assimilation, derangement of the biliary system, a loaded state of the bowels, and from worms: and they yield generally to remedies which evacuate the bowels, and restore the healthy action of the stomach, and of the chylopoetic viscera. The foundation of this disordered state of the first passages, whence spring so many of the diseases of children, is sometimes, however, laid in some previous other derangement of the system. In general, it may be stated, that whatever tends to disorder the general health of infants, will produce this morbid state of the digestive organs; at least, we often observe catarrhal complaints, the slight fevers of children, the hooping-cough, and other of their diseases, have this termination: and I have known a burn induce first a degree of irritative fever, and then a severe bowel-complaint, in an infant not quite a twelvemonth old.

It has been shewn that teething is often difficult, and attended with decisive signs of considerable local irritation in the mouth and gums. The irritation is sometimes very great, and then occasions restlessness and watching. I have seen a child in this state, tossing its head from side to side, crying, and tugging at its gums for whole days, with hardly one hour of rest. Yet was there little fever, no convulsion, no bowel-complaint: but the mouth was hot, the saliva was increased; and the gums tumid and inflamed over two molares just about to pierce them. The gums were at last slit open, and the child was almost instantly relieved.

That the irritation occasioned by teething should, therefore, sometimes be extended to other organs, is neither surprising in itself, nor at variance with the known laws of the animal economy. The influence of local disorder on the general health, even in the confirmed constitution of adults, is matter of common observation. This subject has been lately very fully illustrated by Mr Abernethy: He has shewn that the irritation arising from local disease produces, through the medium of the sensorium and nervous system, often very great disorder of the digestive organs. Now this is one of the effects of tedious and difficult teething; the local irritation excites fever, and disorder of the digestive organs; and in children, this disordered state of these organs is known by vomiting and costiveness, or by a looseness. The stools have nearly the same appearance, from whatever remote cause the bowel-complaint originated. In the case of teething, they are pasty, slimy, and bilious; they often resemble a green coloured gelatine, and sometimes the meconial discharge of new-born infants. But these appearances are certainly not peculiar to the *diarrhœa a dentitione;* they are the same in the other bowel-complaints of children, which are occasioned by a variety of causes, whether operating directly or indirectly on the stomach and bowels. Although, however, the irritation of difficult dentition may, and does produce disorder of the general system, and more particularly of the digestive organs; though it may thus be the remote cause of a severe bowel-complaint, differing little, or not at all, in its symptoms, from the other varieties of infantile diarrhœa, it by no means follows, that the disease, once formed, is to cease the moment the tooth is liberated, whether by the natural process of dentition, or by the scarificator of the surgeon. It was an error to have expected this. It is a common, and a wise indication of cure in every disease, to remove the remote causes when they are in our power: but we do not expect that the disease shall instantly cease: we know that we have other indications to fulfil; that we must restore the disordered functions to their natural and healthy

action;

action; that we must combat symptom after symptom, till the system returns to the same state in which it was before the remote causes deranged the play of its organs, for the powers of the machine have been weakened, and its wheels deranged. The irritation of dentition is but the remote cause of a disordered state of the system, giving rise to other diseases; and when it has produced a particular disease, a diarrhœa, for example, in which the action of so many complex organs is deranged, I would deem it a very singular exception to the general rule, if every thing returned to the natural order, so soon as the remote cause was removed. Local irritation, the febricula which sometimes accompanies it, watchfulness, startings, and the like, generally subside when the rising teeth have made their appearance, or when they have been liberated by the scarificator. Convulsions, too, supervening during difficult dentition, do not imply any organic derangement, but seem to be the immediate effects of irritation. We know the mobility of the infantile frame, and how readily it is affected and thrown into convulsions, by very slight irritations of almost any kind. A cake of curdled milk in the stomach will have this effect; or bile, or worms; and the convulsions cease immediately that the stomach is emptied by an emetic. Accordingly, if convulsions suddenly occur from the irritation of cutting teeth; if no other cause be present; if the gum is broad, swelled, and tense; the mouth hot; and the other signs of such irritation obvious, we may expect instant relief from a free division of the gum. The testimony of such a man as John Hunter, and of almost every writer on the subject, proves that this expectation is neither groundless nor fallacious—for here the Inquirer cannot speak from his own observation: When, however, continued irritation has produced general disorder in the system; when a disease, implying considerable derangement of one or more important organs has taken place, we are not to look for the same immediate relief, either from the natural completion of dentition, or from the artificial division of the gum. The disease may still subsist; but it will now yield to appropriate treatment. An ophthalmia, an eruption, or a diarrhœa, are cases in point, and may stand as examples and illustrations of this reasoning. I can here speak from experience, as well as from the observations of other writers. I have seen each of these diseases occur during difficult and protracted dentition, when the signs of local irritation were present; and have observed them obstinately to continue, baffling every mode of treatment, till teeth had been naturally cut, or freed by the lancet; and then, though the disease did not instantly cease; though little or no effect immediately followed, I have known an amendment of the symptoms take place, the remedies now answer their indications, and the child get speedily well. As in other cases, then, so in this there is an evident advantage in the removal of remote causes: and, though every symptom may not immediately vanish; though the disease may subsist after slitting up the tumid gum, and making way for the teeth, we are not to conclude that we have been unnecessarily employed; we have removed at once the remote cause of disease, and a source of constant irritation. The remedies adapted to the disease itself will now have their full and undisturbed effect, as has been already stated. Enough has now been said, I hope, to obviate the objections stated in the beginning of this Inquiry. It has not been my object to explain the process of dentition, or to exhibit a complete view of this branch of pathology; my only object has been, to determine generally the value of difficult dentition as a cause of the diseases of children. The subject may be again taken up in a future Inquirer. The diagnostics, and treatment of different cases will then be considered, and illustrated by histories.

K.

# PART II.

## CRITICAL ANALYSIS.

### I.

*A Practical Treatise on various Diseases of the Abdominal Viscera.* By CHRISTOPHER ROBERT PEMBERTON, M. D. F. R. S. &c. &c. 8vo., p. 187. Nicol. 1806.

THE number and fatality of the diseases to which the viscera of the abdomen are subject, and the frequent obscurity of the symptoms, by which their nature may be detected, and their varieties discriminated, render them objects of peculiar interest to the practitioner. At the same time, the more common forms of those affections have been so frequently discussed by systematic writers, as well as in the detached essays of practical physicians, that little new light can be expected to be thrown on those topics, even by the most acute of modern observers. Whoever undertakes to write, even with the brevity of Dr Pemberton, on the inflammations, acute and chronic, of the liver, the spleen, the peritonæum, and the intestines, on cholera, diarrhœa, and colica pictonum, must say much that has been often said before, and much that is familiar to practitioners of very moderate attainments. Dr P. however, seems to have designed his treatise principally for the younger professors of the art, to whom, even observations of this sort may be repeated with advantage; and to whom a brief and perspicuous guide, in forming an early diagnosis and prognosis of the diseases in question, is extremely valuable. These purposes, the work before us appears to be well calculated to fulfil; and it contains, besides, occasional observations of some novelty, which the more mature practitioner may peruse with advantage.

Peritoneal Inflammation is the subject of the first chapter. The acute *peritonitis* is clearly and judiciously discussed. The attention of the practitioner is strongly called to the sensations excited by pressure on the abdomen, as the only index of the degree of inflammation, and the only means of ascertaining the variations of the disorder. If the pain on pressure be exquisite, no accidental symptom, such as great prostration of strength, or failure of the pulse, " should lead us from trusting for relief entirely to the lancet."

The author considers a chronic inflammation of the peritonæum, as a complaint of no very uncommon occurrence, although it is little noticed by writers. It is chiefly to be distinguished by a sense of tightness and pricking pain across the abdomen, which are increased by constipation, and relieved by laxatives, so as to lead the patient to attribute all his sensations to habitual costiveness. It terminates either in the acute form, or by the slow effusion of coagulable lymph glueing the peritonæum with the convolutions of the intestines. Laxatives, bleeding twice a-week by six or eight leeches, a rigid adherence to a milk and vegetable diet, are the expedients to be adopted with a view to the cure.

The Inflammations of the Liver come next under consideration. The author, here, takes occasion to offer some judicious remarks on blood-letting; not, indeed, new, but which cannot be too strongly urged upon the attention of practitioners, by whom this little operation is directed and performed with too little discrimination. The buffy coat, it is now well understood, ought not alone to decide our practice as to future bleeding, " in as much as the most trifling circumstance in the *manner* of the blood's flowing will prevent its appearance altogether, even during active inflammation." An observation of the texture and degree of contraction of the blood, after standing some hours, is justly recommended, as affording material assistance, together with the state of the pulse and degree of pain, in our decision as to the propriety of repeating venesection. As the importance of taking blood from a large orifice, in inflammatory diseases, has been long ago remarked by physicians, Dr Pemberton wishes that some more definite method may be adopted in directing this opertion, viz. one referring " to the *length of time* in taking the blood, which may be measured, and not to the size of the orifice, which cannot. " I find," he adds, " from numerous experiments, made, at my desire, for this purpose, by different surgeons, that when the orifice is such as to permit eight ounces of blood to flow in three minutes, that then, a patient, under acute inflammation, will receive every benefit which is expected from the remedy. If it flows in a longer time, he will receive less benefit, and under certain circumstances, no benefit at all, or even an absolute injury," p. 28. A *sudden* depletion is the desideratum in these instances, and any plan, by which the necessity of effecting this is inculcated, will be useful.

Dr Pemberton considers mercurials as altogether inadmissible in the early stages of inflamed liver, and seems to doubt their efficacy at any period. In the chronic inflammation of the liver, he recommends the use of taraxacum, (half a drachm of the extract for a dose,) from which, he affirms, that he has seen the most decided advantage, both in incipient schirrus of the liver, and also in several chronic derangements of the stomach, p, 42.

In the third chapter, the Diseases of the Gall Bladder are treated of, and the diagnostics of Jaundice, as arising from different conditions of the ducts, or the neighbouring parts, are detailed with perspicuity. The author has introduced an engraving, and occupied several pages, in order to explain his notion of the mode of passage of a gall-stone along the duct, which appears to be just. He believes that the stone is not propelled by the contractibility of the ducts alone, which would be as likely to drive it one way as another, but by the bile, which is continually secreted, pressing behind, and distending the duct, thus, at once, preparing the way, and impelling the obstructing body. This accords with the appearance of the ducts, the contraction taking place before the stone, and not behind it, as well as with the action of the remedies.

The Diseases of the Pancreas and Spleen, which are the subject of the two succeeding chapters, are obscure in their symptoms, and where they are suspected, or ascertained, we can only proceed in our attempts to cure, as in similar conditions of the other viscera. Dr Pemberton's observations are, on the whole, judicious.

In treating of the Diseases of the Kidneys, Dr P. remarks, that the necessity of great caution in the prognostic is shewn by the fact, that large stones have been repeatedly found in the bladder, and extensive ulcerations in the kidneys, without their having in the least diminished the bulk of the body, or shewn any symptom, during life, by which their existence had been suspected. And he is hence led to some ingenious speculations respecting the knowledge to be derived from the occurrence or non-occurrence of emaciation, in different obscure diseases of the viscera. For example, " let us take the two cases of a diseased state of the mesenteric glands, and a diseased or scrofulous affection of the breast. In the former, we shall find there is great emaciation; in the latter, none at all. In an ulceration of the small intestines, great emaciation takes place, in schirrus of the rectum, none. In a disease of the gall-bladder, which is subservient to the liver, the bulk of the body is rapidly diminished; but in a disease of the urinary bladder, which is subservient to the kidneys, scarcely any diminution of bulk is to be perceived. In an abscess of the liver, the body becomes much emaciated; but in an abscess of the kidneys, the bulk is not diminished." Now the glands of the body are of two sorts; those which secrete a fluid from the blood, for the use of the system, and those which secrete a fluid to be discharged from it. The former may be termed glands of supply; the latter, glands of waste. It would appear, then, that the occurrence or absence of emaciation, may probably assist us in determining whether a disease exists in glands of the former or latter species, where there is nothing else, save the presence of hectic fever, to point out the existence of the disease. Upon this hypothesis the author builds one speculation further, and asks, "If this position, respecting the bulk of the body under disease, should be admitted as true, will it not afford a probability that the spleen, whose diseases produce great emaciation, is a gland of supply?" P. 85. This reasoning is a little too *circular*, and the premises doubtful. It may be doubted whether the liver, for instance, be not, in a great measure, a gland of waste. It may be doubted, whether diseases of the kidneys *never* produce emaciation. And it may be doubted, whether serious diseases are not occasionally found, after death, in all the internal parts; whether glands of supply or of waste, of which no suspicion was excited, during life, by any one symptom.

Dr Pemberton properly urges the necessity of ascertaining, if possible, in cases of calculus, what the species is in each case, by examining the fragments, or sand, which may be passed; since, although the alkalies give relief in the common species, or uric calculi, the fusible calculus is only soluble in an acid; and, since the publication of Dr Wollaston's valuable paper, he has seen several cases, in which the muriatic acid was given with very great benefit.

The Diseases of the Stomach next come under consideration. "*A pain in the stomach*," (for Dr Pemberton studiously avoids the use of nosological terms), is first discussed. It arises in two opposite states of the organ; being most felt by some when the stomach is full; and by others when it is empty. In the latter case, the pain "seems to arise from an altered and increased secretion of the glands of the mucous membrane of that organ;" the acrimony of the fluid irritating the nerves, and causing the pain. Opium, with astringents, such as kino or alum, is considered by the author as the great remedy. In the pain of the stomach, which is most felt when that receptacle is full, and which appears "to arise from irritability of the muscular coat of the organ, and not to be at all connected with the glandular secretion of it," the mixture of myrrh, steel, and alkali, commonly called Griffith's mixture, is recommended, as answering every purpose; and a

blister

blister may also be applied, if the disorder is severe, or five drops of laudanum, to be taken before dinner. The author enters into some speculations respecting the affinity of Water Brash to Diabetes; and believes, that the former complaint is rather the consequence of using a diet almost exclusively vegetable, and not the effect of dram-drinking. Some observations on vomiting, heartburn, and the organic affections of the organ, conclude the chapter.

Cholera, dysentery, and diarrhœa, do not give rise to any particular observations In colica pictonum, although Dr P. states that the disease consists in a spasmodic affection of the bowels locking up the fæces, he does not appear to have deduced the proper practical inference, and to have attempted, by a *large* dose of opium, to relax the spasm at once, *after* which the difficulty of procuring stools is in general not great. We have frequently given 60 drops of tinct. opii, which sometimes has no effect, if the pain be excessive; but sometimes it removes the complaint at once, and generally, on a repetition, within a few hours. We never knew the slightest ill consequence ensue; and we never prescribe for any disease with such conviction that speedy relief shall be obtained, as by this simple plan in the painter's colic. For the paralysis, which frequently attacks the extensor muscles of the hands, after colica pictonum, Dr P. recommends a mechanical support to the paralysed hand: he extends it, upon a sort of battledore tied to the arm. In several cases, complete success has attended this expedient, after it has been continued for several weeks. Among the intestinal diseases, Dr Pemberton justly treats of what has been called the *Febris infantum remittens*, which is doubtless symptomatic, in most instances, of a derangement in the intestinal canal, and curable by a judicious administration of purgatives. It often nearly resembles hydrocephalus; and we do not think that Dr P.'s diagnostics are altogether satisfactory. The symptoms of hydrocephalus itself are variable. There are not always screamings in the sleep, nor are the faculties always destroyed; and the excretions of the intestines are occasionally as morbid in their appearance as those which are voided in the febris remittens. These are the principal points on which Dr P. founds his diagnosis.

The three last chapters relate to enteritis, or inflammation of the peritoneal and muscular coat of the intestines, to inflammation of the mucous membrane of the intestines, and to disease of the mesenteric glands, all of which are judiciously discussed. On the subject of the second affection, the author makes the following remarks.

" In this disease, there is pain confined to some one part of the abdomen. The pain is constant, though not acute, and varying very little in degree. A slight pressure on the part will not increase the pain, as in the inflammation of the peritoneal coat of the intestines; neither will there arise any (or scarce any) tension of the abdomen, although the pain shall continue a considerable time. The pulse is about 112 in a minute.—The bowels are usually costive." "This inflammation generally terminates by a throwing out of coagulated lymph, which may be discovered in the evacuations, resembling shreds of boiled maccaroni. When we observe these shreds in the evacuations, we may safely pronounce that the patient will soon recover: for the period of the greatest danger is during the high inflammatory state of the membrane; and, as this particular formation is a consequence of it, it is a proof that the period of danger is passed. If the evacuations are particularly offensive, and appear curdled, with here and there specks of blood; and especially if these continue for any length of time, there will be good reason to apprehend that the inflammation has terminated in ulceration. The disease, in this state, is extremely dangerous; though a steady adherence to a milk diet will frequently restore the patient, when it is assisted by small doses of some astringent bitter." P. 183, et seq.

To the young practitioner this compendium will be a useful guide in investigating and treating the diseases of the abdomen; and to the senior, although he will occasionally find a trite observation delivered in a tone of discovery, it will appear to be the work of a sensible and judicious practitioner.

## II.

*On Vaccine Inoculation.* By ROBERT WILLAN, M. D. F. A. S. Physician Extraordinary to the Fever Institution, and to the Public Dispensary in London. 4to. 108 pages, with coloured Engravings, and an Appendix of 54 Pages. Philips. 1806.

IN the contest which the subject of vaccination has excited, it is to be regretted that the partisans have so frequently intermixed their arguments with puerile witticism, or personal invective. It may be doubted, whether the ardent zeal displayed by some of the advocates of vaccination, has not been more injurious to it than the most violent attacks of its decided opponents. We feel considerable pleasure, therefore, in reviewing a treatise on vaccine inoculation, written by a practitioner of established reputation, who does not formally enter the lists of controversy, but who appears to be solely actuated by a desire of investigating the truth. The opportunities which Dr Willan has had of observing the progress and effects of vaccination, and the critical eye with which he has been accustomed to view cutaneous diseases, peculiarly qualify him for the present undertaking.

The First Section of the work commences with a recapitulation of some experiments, made during the years 1799 and 1800, on the *combined inoculation* of the variolous and vaccine fluids. From these experiments, it appears that

> " The variolous and vaccine fluids, inoculated about the same time, restrain the action of each other on the human body, so that in some cases, the vaccine vesicle is smaller than usual, and has a very slow progress; in other cases, the areola is scarcely perceptible; while in others it is large, but premature; and the variolous eruption consists of hard, distinct, shining pustules, which have but little inflammation round them, and which seldom maturate. Some of these pustules are tuberculated; and the small quantity of matter contained in them soon disappears, leaving the cuticle which confined it, horny and elevated for many days afterwards. The rest of the eruption is minute and papulous, not suppurating, but desquamating. I was fully satisfied that the pustules, produced under these circumstances, were genuine variolous pustules, as many opportunities occurred to me of ascertaining, by inoculation from them, that they were capable of producing every variety of the small-pox, from the mild and distinct, to the confluent and most dangerous form of the disease. Dr Woodville, who considered them to be secondary vaccine pustules or vesicles, often inoculated from them, and transmitted the matter to several of his friends: we may hence, perhaps, account for the appearance of pustules, on persons supposed to have been properly vaccinated, in different parts of the country. I must, however, observe, that fluid, taken from the vaccine vesicle, on the arm of a person affected with the variolous fever and eruption, and inserted into the arm of another person, by a clean lancet, produced the vaccine disease alone." P. 56.

It further appears, from these experiments, that the peculiar property of each fluid remains unaltered, even when the variolous pustule and vaccine vesicle are so situated as to be in actual contact.

The Second Section contains a minute account of the *Characteristics and Effects of perfect Vaccination.*

Dr Willan, in this part of his work, describes the genuine vaccine vesicle, which characterizes perfect vaccination; and he adduces very strong evidences of its efficacy as a defence against the small-pox. He has himself seen the test of variolous inoculation applied to 180 persons, vaccinated at different times by experienced practitioners; yet the greatest effect produced, in any of these cases, was the formation of a single pustule, resembling that which appears when the person inoculated has previously had the small-pox. The matter contained in the pustule thus excited, either after the small-pox, or after vaccine inoculation,

tion, is found capable of communicating the small-pox to those who have not been before affected with that disease.

Dr W. thinks that the small-pox, which prevailed so extensively, and proved so fatal in London, during the year 1805, afforded a striking proof of the preventive power of vaccination.

"All persons resident in or near the metropolis, who had been vaccinated since the beginning of 1799, but especially the children of the poor," he observes, "must have had frequent intercourse with variolous patients during the time of this epidemic. The primary series of vaccinations were thus tried in the severest manner possible, yet the subjects of them, to the amount of many thousands, or even tens of thousands, escaped the small-pox, and remain proof against its contagion." P. 19.

The reported instances of failure he attributes to the mistakes which must have been unavoidably committed in a mode of practice entirely new. He concludes this Section, with a statement of the objections formerly urged against inoculation with variolous matter, which appear very similar to those which are now brought against the practice of vaccination.

Section Third. *On Imperfect Vaccination.*—After enumerating the causes which render vaccination inefficient, Dr W. proceeds to point out the appearances characterizing the imperfect form of the disease. He thinks the chief nicety and difficulty of vaccination is, in distinguishing from the genuine cow-pox, some irregular vesicles which have often been mistaken for it, and which do not wholly secure the constitution from the small-pox. The following concise description of them is illustrated by a coloured plate:—

"I have observed three sorts of these irregular vesicles. The first is a single pearl-coloured vesicle, set on a hard dark-red base, slightly elevated. It is larger and more globate than the spurious *pustule* above represented, but much less than the genuine vesicle; its top is flattened, or sometimes a little depressed; but the margin is not rounded or prominent. The second appears to be cellular, like the genuine vesicle, but it is somewhat smaller, and more sessile, and has a sharp angulated edge.

"In the first, the areola is usually diffuse, and of a dark rose-colour; in the second, it is sometimes of a dilute scarlet-colour, radiated, and very extensive, as from the sting of a wasp; at other times, it has the form and colour exhibited, Pl. I. No. 7. The areola appears round these vesicles on the seventh or eighth day after inoculation, and continues more or less vivid for three days, during which time the scab is completely formed. The scab is smaller, and less regular than that which succeeds the genuine vesicle; it also falls off much sooner; and, when separated, leaves a smaller cicatrix, which is sometimes angulated.—The third irregular appearance is a vesicle without an areola." P. 39-40.

As the degree of security afforded by these irregular vesicles is different in different persons; and, as the matter taken from them often produces the same imperfect form of the disease, it can scarcely be doubted that many mistakes and failures originated from this source. Dr W. therefore, suggests the propriety of confining the practice of vaccination to those who have had a sufficient education, and who have minutely attended to the subject. He further recommends, a strict examination of all persons inoculated between the 1st of January 1799 and the 1st of January 1802, and shews the necessity of re-inoculating in every doubtful case.

Section Fourth. *On Variolous Eruptions subsequent to Vaccination.*—According to the observations of Dr W. as well as those of other practitioners, wherever the small-pox has occurred after vaccination, the disease has generally been mild, and so modified as often to exhibit an ambiguous appearance.

> " The nature and extent of this modification of the small-pox," Dr W. observes, " ought to be fully understood. The fever which precedes it, is similar in form, and equal in degree, to the fever usually attending the inoculated small-pox, and the eruption is either papuliform or tuberculated, without much surrounding inflammation ; it therefore coincides, in these leading circumstances, with the disease produced when the vaccine and variolous matter, being inoculated nearly together, restrain the operation of each other on the skin ; or when a person exposed to variolous contagion, has been inoculated with vaccine lymph early enough to mitigate the eruption of the small-pox, but not wholly to supersede it." P. 50.

This important position is elucidated by a recital of some of the most striking cases which have occurred in or about London, and is confirmed by the reports of several other practitioners.—Not less deserving of attention are the effects which are sometimes produced by inoculating, with variolous matter, persons who have been vaccinated some time before. In these cases, the presence of slight febrile symptoms, a red efflorescence on the skin, or the eruption of two or three hard minute pustules*, which generally disappear in three days, have been very frequently considered as proofs of the occurrence of small-pox after vaccine inoculation. Dr Willan observes, that " such inferences are not correctly made, since similar symptoms take place after the small-pox, in persons who have been inoculated with variolous matter," of which he has given several instances.

Respecting the cases of failure which have happened near London, Dr Willan, upon minute inquiry, concludes that, in a very great majority of them, the vaccination had been *imperfect*, and its *effect partial.*—In making another inference, he says,

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* These pustules differ considerably from variolæ. They are accurately delineated in the engravings annexed to the work.

" If, in a few cases, *perfect vaccination* does not prevent the variolous fever and eruption, on inoculation or exposure to contagion, it will, at least, place the persons who take the small-pox, in the same state as those who have been inoculated with vaccine and variolous matter about the same time,—a state which has hitherto been wholly free from danger." P. 76.

Sections Fifth and Sixth. *On the Cutaneous and Glandular Affections imputed to Vaccination.*—The author has not observed any *new* diseases of the skin referable to the cow-pox. He endeavours to prove, by a table, extracted from the register books of the public dispensary in London, that the number of cutaneous complaints is not increasing, their proportion to all other diseases having been the same before the publication of Dr Jenner's inquiry, as in the 6th and 7th year of vaccination. P. 82.

The Seventh Section relates to the chicken-pox, and swine-pox, which are often mistaken for small-pox after vaccination, and are sometimes communicated by inoculation, instead of the small-pox.—In order to prevent future mistakes, Dr W. has given an enlarged account of the varicella ; and has represented, by an engraving, the three varieties of it denominated chicken-pox, swine-pox, and the hives.

The Eighth Section contains several cases of *inoculated varicella*, with observations on them.

An Appendix of 54 pages follows the body of the work. It consists of communications from several respectable practitioners. The most extensive and interesting papers are those of Dr Jenner, Mr Pearson, and Dr Rutter ; but all of them afford clear and satisfactory evidence in favour of the new inoculation.

This volume will be deemed of considerable value, inasmuch as it contains a succinct account of the facts which have been ascertained, relative to the vaccine disease, up to the present time. The temperate and impartial manner in which the author has examined those controverted points, which have hitherto been discussed with unreasonable acrimony, gives a great additional weight to his authority ; and we doubt not that he will be successful in his avowed endeavour " to rectify the mistakes made by some of the first inoculators, to remove several misconceptions, and to render the practice of vaccination more accurate and more secure."

## III.

*A Treatise on the Origin, Progress, Prevention, and Treatment of Consumption.* By J. Reid, M. D. Member of the Royal College of Physicians, London, &c. &c. 8vo. p. 317. Phillips.

However faulty in design, or erroneous in execution, some recent plans of popular instruction in the principles of medicine may have proved, it cannot be denied that the disposition which they have created and cherished " in the public mind, to acquire a knowledge of the laws of life beyond the boundaries of the medical profession," promises to check, in a great measure, the career of professional fraud.

Although undisguised quackery of every kind be, in the present, more than in former periods, prevalent and presumptuous; concealed and graduated empiricism is evidently on the decline; the semblance, without the reality of science, cannot now with facility be assumed, pompous externals are not equally calculated to conceal internal and essential defects, and surreptitious insignia of superior knowledge, although, perhaps, for a time imposing, are retained by a tenure as precarious as the fictitious learning of Goldsmith's pseudo-cosmogonist.

The author of the work now before us is decidedly of opinion, that the disposition to which we have alluded, affords a favourable omen of much future amelioration and improvement, both as it relates to practical and preventive medicine. On this account he has aimed at giving a popular cast to his disquisition, without, however, deviating so far out of the beaten track of medical literature as to write merely for the public. " He has laboured," he informs us, " to delineate a portrait, the prominent character of which shall be universally understood, while the more minute lines and shades of expression shall remain for detection by the skill of the artist."

The subject which has been chosen by Dr Reid, is one of general interest, and is, consequently, particularly suitable to a work formed upon the above plan.

Consumption, while it is the most fatal, is perhaps the least inevitable of endemic maladies; it is with extreme difficulty cured, but with comparative facility prevented; no disorder, when confirmed or established, demands more discernment and attention on the part of the physician; but it is principally by domestic skill and attention that its origin is to be prevented, and its establishment obviated.

As a basis for the speculations contained in this volume, we are presented, in the first place, with a statement of the fundamental propositions contained in the Elementa Medicinæ of the celebrated Brown; and, from the Brunonian dogma, respecting the prevading principle of organic life, an explanation is attempted, of those functions in the animal economy which are more especially worthy of notice, as they relate to the pathology of phthisical disorders. In the course of this disquisition, our author endeavours to prove, that the essential error in modern physiology consists in viewing as a cause, what deserves merely to be regarded as an effect of fibrous excitation, chemical change; and while he admits of the absorption, and even condensation of oxygen in the lungs, he contends, that the heat of the animal body thence occasioned, is not diffused as through a mass of unorganized matter, but arises as a direct consequence of stimulation. In like manner, he argues, that perspiration is an excretion subordinate to vital activity and heat, rather than one of the principal instruments, according to the opinion of Dr Currie and others, in the regulation of animal temperature.

We are next presented with remarks on each of those affections, with the exception of asthma, that are considered by Dr Cullen as disorders precursory of phthisis. While inquiring into the mode in which hemorrhage from the pulmonary vessels is induced, our author strenuously combats the principle of direct and primary alteration in the state of circulating fluids as its cause. Hæmoptysis, with other disorders, more particularly of the breast, have often been produced by laborious ascents to the summits of very elevated mountains, where the air is in general less dense than in valleys or level ground; such affections, on this account, have been attributed, either to the rarefaction of the blood, or to laxity and dilatation of blood-vessels, on account of the subduction of that degree of atmospherical pressure which is requisite to maintain a due tone in the animal fibre. On this hypothesis, our author introduces the following strictures:

"Tenuity in the atmosphere, necessarily supposes a diminished portion of the base of which it is composed, in a given quantity of air, if such quantity be ascertained by measurement. We have already endeavoured to prove, that oxygen, or the substance absorbed by the blood in its passage through the lungs, operates by exciting into action the living principle. A subtraction from the ordinary supply of this exciting power, must necessarily be productive of weakness and proportionate incapacity for muscular exertion. In the lungs, this accumulation of irritability from defective stimulation will appear more particularly evident; and in instances of constitutional susceptibility to these complaints, hemorrhage will almost invariably result from inordinate exertion of voluntary power under the circumstances now described.

A demonstration of the principle we are endeavouring to impress as incalculably important with reference to the pathology of hemorrhage, is furnished by the remarkable fact, that, when ascents are effected without the aid of muscular exertion, neither the sensations of lassitude, nor diseased affections of any kind, are in an equal degree liable to be generated. Persons who have been conveyed by artificial aid to elevated regions in the air, or the summits of lofty mountains, are by no means subject to hemorrhagic attacks; because, under these circumstances, the operation of those exciting powers, by which alone muscular exertion can be maintained, is not in an equal measure required." P. 82.

From these facts the following inference is deduced:

"To undue action, occasioning debility, and consequent rupture of vessels, are we, therefore, in every instance, to ascribe the occurrence of pulmonary hemorrhage, and not to the mechanical production of laxity from unequal pressure, or the rarefaction and expansion of circulating blood." P. 84.

Dr Reid, we conceive, might have enforced his opinion respecting the requisition of oxygen, rather than merely condensed air, for the maintenance of fibrous energy, by referring to the fact related in the *Nov. Org.* of relief, experienced under similar circumstances with those to which he has alluded, by the application of sponges moistened with vinegar and water, ("spongias aceto et aqua madefactas") to the mouth and nose. In an inaugural dissertation which we have accidentally met with, entitled, "Tentamen de modo quo *musculi cerebrum,* atque *Nervi* respiratione afficiuntur," we find this fact employed to support a different theory from our author, and to prove the similarity between respiration and combustion; in which conclusion the writer of this thesis is confirmed, by a physiologist of celebrity, with whom our former studies had previously brought us acquainted *.

On the subject of catarrh, Dr Reid likewise adopts, with some modifications, the theory and practice of Brown; as these modifications, in relation to the prevention of consumptive ailments, are extremely important, this part of the subject ought by all means to have been treated of more in detail; indeed, throughout the whole of his book, Dr Reid has, we think, evinced too much reluctance to engage even in necessary minutiæ and points of detail, in order to justify and illustrate his practice.

As a remedy for counteracting inflammation of the lungs, our author appears to have very considerable confidence in the powers of the justly celebrated fox-glove; he regards it, however, as more especially applicable to what may be entitled *phthisical,* in contradistinction to *pleuritic*, or violent inflammation of these parts; an opinion, in which our observations on the virtues of this plant lead us entirely to coincide: it may be questioned whether digitalis has not, by some practitioners, been extolled too highly in some species of pneumonia.

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* Mr Allen. Rev.

Having dismissed the consideration of those disorders which often precede consumption; before entering on the direct history and treatment of phthisis, the marks of the phthisical disposition are first pointed out, and likewise the means of anticipating and preventing constitutional tendency to consumption. The observations detailed in this division of the work are rendered fully intelligible to the unprofessional reader, and are highly worthy the attention of the public.

In the rules which are laid down for the treatment of phthisis, our author displays an intimate acquaintance with the characteristic features of the disease; but, as above hinted, we think the delineation of accidental symptoms, as well as enumeration of auxiliary medicines, might, and ought to have been made more particular and extensive.

In the concluding chapter of the work, several interesting remarks are introduced, on the mode of distinguishing between real and spurious phthisis, and on the different means of treatment required in general decline, according to the peculiar nature of prevailing debility and disorder. The division between glandular, and muscular, or nervous weakness, although generally just, is perhaps marked out with deceptive precision.

That our author has not repeated that sentence, respecting the defects of chemical physiology, which is given in the introductory pages of his treatise, the following extract, on the *modus operandi* of steel, will fully demonstrate.

> "When modern chemistry began to be extensively applied to the explanation of physiological and pathological facts, the virtues of *steel* were inferred from the remarkable facility with which it enters into a combination with oxygen. Thus, chalybeates, like some other pharmaceutical preparations, were generally conceived, either directly to oxygenate the system, or, by combining with the circulating fluids, and insinuating themselves among the fibres of the body, become a mean of enabling the languid frame to attract more oxygen from the atmosphere. This theory is correct, only inasmuch as steel, by permanently augmenting the force and activity of the vital power, restores the lost energy of the exhalent arteries and absorbing vessels, facilitates the respiratory functions, gives vigour to the cirlation, and oxygen to the blood," p. 307.

Upon the whole, we consider the present treatise as by no means an unimportant accession to the stock of medical literature. The style of the work may be judged of, from the specimens which we have presented to our readers; it is, with trivial exceptions,

ceptions, correct and elegant, and often nervous and animated; with more precision and logical consideration, it would, perhaps, have been less calculated for "general," if not for "professional perusal." We think it, however, proper to remark, that the value and interest of this small volume would, in no measure have been injured, by a diminished solicitude on the part of its author, "to found observation on a system;" or by a more rigorous adherence to the important maxim of "*Nullius jurare in verba magistri.*"

## IV.

*Cours d'Anatomie Médicale; ou, Elémens de l'Anatomie de l'Homme, avec des Remarques Physiologiques et Pathologiques, et les Résultats de l'Observation sur le Siége et la Nature des Maladies, d'après l'Ouverture des Corps.* Par ANTOINE PORTAL, Professeur de Médecine au Collége de France, d'Anatomie au Museum d'Histoire Naturelle, &c. &c. &c. En 5 tomes, 8vo. Paris, 1805.

THIS is a work of great merit, upon a subject of very general importance. The author is a man of learning and experience; and his book is written with industry and elegance. To enlarge upon the importance of morbid anatomy, is now both superfluous and unnecessary, because its value is universally felt and acknowledged. The study of this branch of medical science, is one of the distinguishing characteristics of the present age; and it will be well if it continues to be so, for, if dissection of morbid bodies had never been neglected, we should not have occasion to cry out so often against the inefficacy of remedies, nor blame the uncertainty of an art, because we are sometimes ignorant of the best mode of employing its means. "Si morbi cujuslibet historiam diligenter perspectam habebo, (says Sydenham) par malo remedium nunquam non scirem afferre." A knowledge of the structure of the human body, and its functions, in their healthy and diseased state, is as indispensably necessary to the scientific practical physician, as acquaintance with the compass to the navigator, or mathematical analysis to the astronomer; and experience has shewn, that all those who have attempted to offer any explanations, without the aid of anatomy and physiology, have committed the grossest blunders. Galen, Stahl, Boerhaave, Keil, Brown, and a crowd of systematic writers, afford instances of this truth. The works of Bonetus, Morgagni, and Lieutaud, remain splendid monuments of their indefatigable labours; but they are liable to objections on account of their size; the quantity of irrelevant matter they contain; the want of any methodical history of symptoms; and the profusion of frivolous theoretical discussions. With the view of supplying the defects of these celebrated authors, Professor Portal has made morbid anatomy the subject of his lectures for these forty years past. His lectures are divided into two courses, delivered in winter and summer; the former of these is now published, and the other course, consisting of clinical observations, illustrated by a reference to particular cases, are reserved for more leisure, and further encouragement. The object of this course of medical anatomy, was to compare the natural and morbid state of every part of the body, a method both instructive and useful, because the knowledge of the one facilitates the acquisition of the other, and each part is better understood by an acquaintance with both its conditions. Professor Portal is well known, by different publications in the several branches of his profession; he stands high among the most eminent practitioners at Paris; and he is known as the editor of Lieutaud's '*Essais d'Anatomie*,' published 25 years ago, at that author's particular request.

The present work is comprised in five thick octavo volumes, containing a concise description of the different parts of the human body, to which remarks are added, in the form of notes, at the end of each section, noticing all the morbid affections to which every part is liable, with the histories and dissections of many interesting cases, from the author's own practice, and constant references to the best sources of information. We were surprised at finding no allusion to our countryman Dr Baillie's very excellent work upon this subject. Professor Portal must have been completely ignorant of such a valuable collection of facts relating to morbid anatomy, or he would not have omitted mentioning it: there is no reference to any German books on pathology, which would have furnished many important additions to this collection. But this is not the first time we have had occasion to take notice of the unpardonable ignorance of the French writers; they undertake to write for the benefit of all nations, thinking their information is as universal as their language, and they seldom trouble themselves to learn any other language but their own.

In a treatise on anatomy, there is little expectation of originality, as few teachers now-a-days pretend to any wonderful discoveries. The chief value, therefore, of a work that aims at the instruction of students, consists in a copious selection of all the facts already known; in the novelty and arrangement of the materials; or in the inductions made from the most important truths they contain. M. Portal has followed the order adopted by anatomists in general; he begins with describing the bones and their appendages, and the muscles; and then the brain, and nerves, and viscera. He has retained the old names, through fear, he says, of multiplying the difficulties of instruction; yet he does justice to the exertions of *Chaussier* and *Dumas* for improving the nomenclature, and he places their new names in a note, as an appendix to the old. Such a confession, from so distinguished a teacher at Paris, shows what little progress the new nomenclature has made. From most of the details, it is not easy to make any extracts which might appear very interesting; the following are selected as examples of the author's originality and vigilant attention:

"The curvature of the humerus is more strongly marked in children who have been wrapped up in swaddling-clothes, than in those whose arms have been left perfectly free. The length of the bones of the fore-arm is subject to considerable variations. I have found (says M. Portal), in several subjects, the bones of the arms shorter, and the bones of the fore-arm longer, than usual; and in other instances, the humerus had this disproportionate length, and the fore-arm was evidently shorter than natural. Sometimes this disproportion is observed in the thighs and bones of the legs, whilst in some cases this variety is only discovered in the superior extremities, and even sometimes only on one side of the body." We remember to have read some remarks upon the comparative length of the arm and fore-arm, in an attempt to prove the regular gradation of man, by the difference in the length of the upper limbs. This part of the hypothesis, however, like the rest of the argument, was founded upon an assumed principle, that black men were created inferior to white men, and it rested only upon a few facts, derived from the evidence of two skeletons of negroes, and an admeasurement of some well-fed Englishmen, who were taken, of course, as the standard of European perfection. Unfortunately for this theory, we took some pains to examine its accuracy, by first applying a rule to our own elbows and little fingers, (with some fear and trembling, it must be confessed), and next measuring fifty soldiers, taken miscellaneously from a regiment; the greatest variety was observed amongst them; very few were alike, the good soldiers and the bad, the cowards and the brave, the privates and the officers, had all some difference in the comparative dimensions of their arms and elbows, and, of course, threw the whole of the system into despair. The observations of the Parisian professor have done as much again.

When speaking of the reduction of the dislocated humerus, M. Portal remarks, that surgeons should be attentive to make the arm return into the socket, by the same way that it got out. He thinks a partial or incomplete luxation very seldom happens, and very unlikely to occur. In reducing the limb, he recommends the extension always to be made by hands alone, rather than by powerful machinery; and he refers to a memoir of his own, respecting the employment of machines in cases of dislocation.

Anatomists and surgeons are very well acquainted with the reciprocal communications between different parts of the body, by means of the cellular substance. Professor Portal has made some experiments to ascertain some particular connexions which had not been sufficiently examined; he wanted to know how the air passed from the lungs in emphysema, into the upper extremities; and how that curious swelling was produced in disorders of the chest. For this purpose, he made a small opening into the external membrane of the lungs, and introduced the pipe of a pair of bellows, and by working these a few times, he saw the air puffing up the superior extremities. Instead of air, he employed water, a much less quantity than what is found in the lungs in some dropsies; by pressing the lungs several times, the water was made to pass into the upper extremities and neck. In order to confirm these experiments, he introduced sometimes air, sometimes water, into one of the arms, and he saw the lungs readily become distended in both cases. He next injected the cellular substance of the arm, and always saw the injection spread itself into the lungs. He did not stop here, but pushed the injection till the neck and face became distended, which gave, to the thinnest subject, an evident *embonpoint*; and, as the matter used for injection, was slightly tinged with red, it gave a colour to the body, very like the appearance of life.

It is probable *Ruysch* gave this fulness, and air of life, to his preparations by these means. *Fontenelle* once said, the mummies of Ruysch prolong, as it were, life, but those of Egypt only prolong death. The pleura and mediastinum communicate with the cellular texture of the neck and arm-pits; these membranes form two sacs in the chest, and the mediastinum is formed by their reflection. The site of the parotid gland may be looked upon as the point of union and connexion of the cellular substance of the head, neck, face, and chest, hence this part becomes swelled in many disorders of the constitution; sometimes this swelling is salutary, sometimes fatal.

In the history of the fat, and its uses and diseases, the authority of *Sennertus* is quoted, for an account of two men, so extraordinarily fat, that one weighed 480 lib., and the other 600 lib. *Haller* mentions another instance of a person, whose weight was 800 lib. In these instances, the quantity of fat weighed between three or four times more than the rest of the body. There is a remarkable example of a fat man, now exhibiting in London, which nearly equals any upon record;—the weight of *Daniel Lambert is fifty stone, upwards of* 700 *lib.* What is singular, his face is not larger than natural, and there appears to be no accumulation of fat in the cellular substance of his head, his lungs, or his heart; the accumulation of fat has taken place very unequally in different parts of his body, especially in his legs.

Professor Portal proceeds, in the third volume of this work, to make a minute survey of the soft parts in the human frame: he describes the beautiful structure of the heart, the blood-vessels, and the viscera; and examines the peculiar state of each part in its respective situation. He seems disposed to think the pericardium has never been found wanting; he has always detected it, firmly adhering to the heart, in instances where it might have been said to be deficient; and *Haller*, he says, always found it in all the animals he dissected. But, if the 'Morbid Anatomy of Dr Baillie' had been consulted, or 'the Medical and Chirurgical Transactions,' our author would have found the history of a pericardium being wanting from original formation, the authenticity of which, there is not the least reason to doubt. Dissection has furnished morbid alterations of the pericardium, which the author arranges under twelve different heads. In one instance, he found the pericardium half an inch thick: such an affection is produced by some scrophulous complaint, or in consequence of inflammation. He observed it also considerably increased in size, in a man 32 years of age, who died from syncope at a meal, some time after his recovery from a continued fever. The coats of the pericardium have been found much thickened in persons who never experienced any difficulty in breathing, nor any fainting fits. Dropsy in the pericardium, in some cases, has been occasioned by a rupture of one or more hydatids, which formed in the substance of the membrane surrounding the heart and the auricles, or in the external coat of the large vessels included in the cavity. Hydatids of this sort have been detected of different sizes, in persons whose pericardium was full of water, by *Wepfer*, *Thebesius*, *Fanton*, *Morgagni*, *Senac*, *Lieutaud*. 'I saw some of them myself, (says our author), at the base of the heart in one subject, and in this case no water could be seen in the cavity of the pericardium.' The symptoms of water in the pericardium are like those of diseases of the heart, the lungs, and the chest, yet one symptom is sometimes particularly marked : this is the extreme slowness of the pulse, which does not happen, according to *Senac*, either in asthma, or in disorders of the chest ; but it seems doubtful whether this symptom may be relied on, as other circumstances may contribute to retard the action of the heart besides water collected in the pericardium ; and all the circumstances of organic diseases are liable to be misunderstood.

To the list of the morbid appearances of the heart, Professor *Portal* makes several additions ; he arranges the diseases of this organ under sixteen separate heads :—tumours and obstructions of the heart ;—lymphatic concretions covering the heart ;—inflammation of the heart ;—abcess ;—gangrene of the heart ;—extreme softness of the heart ;—ulcers ;—schirrous hardness ;—ossification of the heart ;—calculous concretions in the heart ;—polypus ;—diminution of the size of the heart ;—enlargement of the heart ;—rupture of the heart ;—wounds of the heart ;—displacement of the heart. Rupture of the heart takes place more frequently in the left ventricle than in the right. Examples of this nature are recorded by *Harvey*, *Morgagni*, *Senac*, and *Lieutaud ;* and several cases are related by *M. Portal*, in a memoir read to the Academy of Sciences. A remarkable case is adduced, of a young man being killed by the rupture of his heart, from a loaded waggon passing over his chest, which is supposed to have pressed upon the aorta, and thus caused the bursting of the left auricle.

The fourth volume opens with a descriptive account of the brain, the nerves and the organs of the senses, illustrated by pathological and physiological remarks. Whilst describing the diseased appearances of the brain and its membranes, the learned author is naturally led to consider the effects of apoplexy ; and he declares he has demonstrated in two memoirs, one printed in the *Memoires de l'Academie des Sciences de* 1781, the other in the *Memoires de l'Institut*, that the symptoms upon which the existence of *serous* apoplexy, as differing from *sanguine* apoplexy, has been founded, are imaginary and vague ; and he is convinced, bleeding has been neglected in some cases without any just reasons. He adduces several cases, among them is the celebrated *Daubenton* and *Leroy*, &c. which go to shew the *apoplexia sanguinea*, as it has been called, is very common in subjects who had none of the marks usually pointed out by writers on pathology.

Cases abound in medical books, of different extraneous bodies, such as shot, bullets, splinters, &c. being found deeply lodged in the brain of people who never experienced any complaint that could be referred to such a cause. *Dr Ami* sent to Professor Portal, from Guadaloupe, the detailed statement of the case of a negro, in whose skull three needles were discovered, about the superior longitudinal sinus; according to the report of several professional men, no wound or cicatrix on the cranium could be detected, that could indicate the way by which these extraneous bodies could reach the place where they were found. The needles were sent, along with the skull, to the National Institute; yet this fact is too extraordinary, not to excite some suspicion as to the reality of some points in the statement, or at least as to the consequences deduced from them.

The following case is given from the author's personal experience and observation:

The late *Marquis de Causan*, of an irritable temperament, experienced pricking sensations, first in the fingers of his right hand, then in the toes on the same side; the sensibility of the fingers was diminished, but the power of moving them remained. The hand and the foot became insensible; these parts shrunk and became cold; the disorder increased gradually in the hand, the fore-arm and the foot; however, the patient was still able to walk: the arm and thigh of this side were next affected, and *M. de Causan* remained more than a year in this state, only able to walk in his chamber with a crutch under the lame arm. The ends of the fingers and toes of the left side began to be affected in the same manner as those of the right, and the disorder increased just as upon the other side. The patient was obliged to lie in bed, deprived of every sort of motion in the trunk and extremities; he could breathe and swallow tolerably well: the other functions continued undisturbed for some time; but, by degrees, the sight became weaker, and was gradually lost; at the same time, the hearing became impaired, and soon entirely destroyed. A few inarticulate sounds could be uttered, and he could swallow some spoonfuls of broth and jelly; the pulse was remarkably slow, only ten, thirty, and forty pulsations could be sometimes counted in a minute. I never met with so slow a pulse, (says M. Portal), these were of sufficient strength, but rather unequal. Life was at length exhausted. On opening the body, all parts of the brain were found in a natural healthy state; but the portion of spinal marrow contained within the vertebræ of the neck was very much hardened; it had the consistence of cartilage, and the membranes covering it at this place, were very red, as if inflamed.

A very elaborate description of the great sympathetic nerve occupies many pages. Notwithstanding the investigations of *Meckel* and *Walter* of Berlin have done much to elucidate the intricate anatomy of this complicated part of the human body, *Portal* has made it the subject of his inquiries, and here gives the result of an unpublished memoir. His observations are wholly confined to the human body, which is to be regretted, because we most want a comparison of this structure in the different classes of animals.

After describing, in a clear and accurate manner, the several parts and connexions of the spleen, the author proceeds to detail the different opinions entertained concerning its uses, and the diseases to which it is liable. Inflammation of the coats, and even of the substance of the spleen, he seems to think, takes place more frequently than is imagined. He has found evident marks of inflammation in persons who died with the ordinary symptoms of peripneumony, but without any expectoration, and with violent palpitations of the heart: the lungs were sound, and the spleen very much inflamed; and so was the left side of the diaphragm. The symptoms accompanying inflammation of the spleen, are smart fever, pain in the left side, more or less intense, difficulty of breathing, palpitation of the heart, vomiting, and tension in the region of the stomach, attended with excessive thirst, and sometimes difficulty in passing urine; sometimes violent colic and jaundice accompanies inflammation of the spleen; and these symptoms may be easily accounted for, if it be remembered how near the spleen is situated to the diaphragm, the stomach, the colon, and left kidney, and how the functions of these parts are deranged by any attack of inflammation. The spleen has been found very large in many instances, and produces considerable derangement in the animal economy, from its prodigious size. Vomiting is said to be often induced from this cause. Professor Portal mentions the case of a young Italian prince, who was troubled with nausea and vomiting every day, a few hours after any meal, from the eleventh to the twentieth year of his age;—he had an enlargement in the left hypochondriac region, which could only be referred to the spleen. He was cured, by the application of leeches to the hemorrhoidal vessels, and different laxative medicines, combined with antispasmodics. In obstructed menstruation in young girls, the spleen is enlarged sometimes so as to become sensible to the touch, according to M. Portal; hence the nausea and vomiting in such cases, which disappear as soon as the menses become regular.

This work terminates with some general reflections upon the fœtus, and upon death. The venerable author takes leave of his reader in a postscript, in which he speaks of the difficulties of the task he undertook, and how little encouragement is given to practical writers in the metropolis, where *he* is, fortunately, engaged in very extensive employment. The public at Paris are like the rest of the world in what respects their own health; they will not always put their trust in scientific physicians, professors, authors, or academicians; they think themselves the best judges of their medical attendants, and will chuse for themselves. If it be not too presumptuous in us to make choice of a good useful library book, for any of our profession who are fond of reading, we recommend to their notice the *Cours d'Anatomie Médicale, par Antoine Portal.*

## V.

*Cases of the Excision of Carious Joints.* By H. Park, Surgeon in the Liverpool Hospital; and P. F. Moreau, de Bar-sur-Ornain, M. D. de l'Ecole de Paris. With Observations by James Jeffray, M. D. Professor of Anatomy and Surgery in the College of Glasgow. Glasgow, 1806. 8vo. 207 pages.

The bold attempt made by Mr Park to cut out diseased joints, had, in this country, nearly fallen into oblivion, or was remembered, not as an example to be imitated, but as a caution to preserve the young surgeon from the seduction of an enterprizing, but hazardous, though once successful operation. In France, however, this operation has, it seems, been acquiring credit, principally through the exertions of the late Mr Moreau, who suggested the excision of carious joints, nearly about the same time that Mr Park made known his operation in England, although no communication of ideas appear to have taken place between them. Moreau also carried his proposal into execution, and performed his operation on different joints, with constant success. The practice has since been continued by his son, who has lately published an account of his own and his father's cases.

When Moreau's publication fell into Mr Park's hands, Dr Jeffray was at Liverpool, and, having seen it, he was struck with the importance of the subject, and resolved to undertake the translation of these interesting cases. He obtained, at the same time, permission from Mr Park to republish his original letter to Mr Pott, together with the account of his second operation, as published in the London Medical Journal. And to these, Mr Park has added an account of his later observations and practice, never before made public.

Such is the history of the present publication; and thus, to Dr Jeffray we are indebted for a complete view of every document relating to this important surgical operation. He appears before the public, however, not merely as an editor, or translator; he has considered the subject as a critic; added some valuable remarks of his own, on the preceding cases; and suggested improvements in the mode of operating.

The operation proposed, and actually performed with complete success by Park and Moreau, is, in cases of diseased joints, "the total extirpation of the articulation, or the entire removal of the extremities of all the bones which form the joint; with the whole, or as much as possible, of the capsular ligament, thereby," says Mr Park, "obtaining a cure by means of callus, or by uniting the femur and tibia, when practised on the knee; and the humerus, radius, and ulna, when at the elbow, into one bone, without any moveable articulation." Formidable as such an operation must be on the knee, the largest joint of the body, it has now been performed three times, twice by Mr Park, and once by Moreau. The success which attended Mr Park's first case was perfect. The man who was the subject of his second operation, sunk under constitutional disorder, while the cure of the wound was advancing. Moreau's patient was hardly more fortunate; he did not live to enjoy the benefit of the operation. He died three months and a half after the operation was performed, and when the cure was nearly completed, of an epidemic dysentery, which prevailed at that time in the military hospital at Bar.

The chief difference between the operations of Park and Moreau is in the manner of incising the integuments, forming the flaps, and exposing the joint. Mr Park made an incision, "beginning about two inches above the upper end of the patella, and continued about as far below its lower extremity; another crossing this at right angles, immediately above the patella, the leg being in an extended state, was made through the tendons of the extensor muscles down to the knee." And thus dissecting the four angles of his crucial incision, he formed as many flaps, and exposed the joint, which was then dislocated and removed. In Moreau's mode of operating, there are but two rectangular flaps, one above, and one below the joint. These are obtained by making a longitudinal incision on each side of the joint from above, downwards, and a transverse incision directly across the joint, from the one lateral incision to the other. But in operating on the knee-joint, he formed altogether three flaps, one large rectangular flap, denuding the femur above, and two triangular flaps, exposing the heads of the tibia and fibula below. The operation is thus described:

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" I made a longitudinal incision, between the vasti and the flexors of the leg, down to the bone. These incisions were begun about two inches above the condyles of the femur, and were carried down along the sides of the joint till they reached the tibia. I united them by a transverse cut, which passed below the patella, penetrating to the bone.

" I raised from the condyles, by dissection, the flap which I had thus formed. The patella was attached to it; but being diseased, I dissected it out. I then caused the limb to be bent, that I might bring the condyles of the femur into view. After having tried them by the gouge, and found that they were diseased throughout, it became necessary to remove them entirely. Wishing to cut them off from the body of the bone, before I turned them out of the joint, I separated what adhered to them behind, where they are joined to the body of the bone. I passed the fore-finger of my left hand through at that place, in order to press back the flesh from the bone; and on that I sawed. Then, causing the knee to be bent, I pulled the cut piece towards me, and separated it easily from the flesh and the ligaments, without any risk. The condyles of the tibia being found to be carious, it was necessary that they should be laid bare. In order to do this, I made an incision nearly 18 lines in length, on the spine of the tibia. I extended my former lateral incision on the outer side of the knee, nearly as far down upon the head of the fibula. By these means I obtained one flap that adhered to the flesh, which filled up exteriorly the interosseous space; and another triangular flap, formed by the skin, which covers the inner face of the tibia; which bone I was obliged to lay bare before I could apply my saw. Upon raising the outer flap, the head of the fibula came into view, which, after being separated from its attachments, I cut off with a small saw. I then raised the inner flap, and separating the condyles of the tibia from the flesh behind, I sawed off from them a piece about 10 lines in length. The rest was sound.

" I placed the leg in the position in which it ought to be with respect to the thigh; I laid down the flaps, and brought them together by a few stitches. The wound was dressed with pledgets dipped in cerate, over which dry caddis was laid. The whole was supported by compresses, surrounded by the eighteen tailed bandage. The patient was laid in bed, in the most easy posture." P. 130-133.

These bold operations, performed in the most unfavourable case, in a diseased state of the articulation, where the soft parts themselves were not altogether sound, prove the practicability of cutting out the knee-joint, without immediate risk. But the patient has still to encounter many consequent dangers, and to struggle through a long cure, which he supports with difficulty. He preserves, at most, after all this hazard, a stiff and shortened leg. The objections, however, which might be urged to this operation on the knee-joint, do not apply to the joints of the upper extremity. The operation is here more easily performed, the cure less hazardous, and the advantage obtained infinitely more valuable.

A diseased joint is not the most favourable case for this operation,

tion, yet diseased elbows have been cut out by the Moreaus with constant success. It is remarkable, that the excision of this joint is not followed by anchylosis; the flexion of the fore-arm upon the arm is preserved, as well as every useful motion of the arm and hand. Mr Moreau's mode of operating will be easily understood from his second case, which we shall here insert.

"A man of the name of *Moriot*, a chasseur in the 1st company of the centre legion, was dismissed from the military hospital of Bar-sur-Ornain, upon the 29th of August 1794. There were several ulcers near the elbow of his right arm, which were the consequences of a gun-shot wound.

"This soldier had undergone many operations, in different hospitals, without any relief. The arm was very much swelled, and so very painful, that he scarcely could allow it to be touched. The matter discharged was sanious, and stained the dressings. He seemed every day to be getting worse and worse.

"My father, having satisfied himself that a caries did exist, resolved on the operation, which he performed in the following way.

"Having seated the patient on a chair, and caused his arm to be supported by assistants, he made two longitudinal incisions, one on each side of the arm, along the spinous edges of the os humeri. These incisions were begun about two inches and a half above the condyles, and were continued downwards, till they reached below the condyles, penetrating to the bone. He then made a third incision, above the olecranon. This incision, passing directly across, from the one lateral incision to the other, produced a square flap, which he raised from the bone, and made be held up by an assistant. He cut the ligaments of the joint; and, dislocating the os humeri, he detached it from its muscular adhesions, for about an inch downwards; and at that place he cut it through, because it was completely carious. The rest of the bone being sound, he contented himself with removing, by the chissel, a few spots that were carious on its posterior surface.

"He next proceeded to make a new flap, in order to lay bare the upper end of the bones of the fore-arm, which also were carious; and to effect this, he made one incision along the external edge of the radius, and another, along the internal edge of the ulna, each about an inch in length, and in the direction of the longitudinal incisions formerly made, beginning where these ended. Having thus got another flap, he separated it from the bones, which were found to be much diseased. Having detached the bones from their adhesions, he cut off, from each of them, about an inch with a saw.

"The patient was put to bed. His arm, half bent, was laid on a cushion, on which an eighteen-tailed bandage had been previously placed.

"My father intended to have brought the flaps together by suture, but the following circumstance put that out of his power. The patient, in the hope of rendering himself less sensible of pain, had drank a whole bottle of white champaign before the operation. As the man was not drunk, my father imputed the singularity of his manner to fear. But, upon the first incision, the blood issued in such profusion, that they were obliged to tighten the tourniquet. This did not stop the bleeding; so that it was judged proper to fill the wound with caddis, gently crammed in. By this means, the bleeding was checked at last, but the lips of the wound could not be brought together.

"In a few minutes after the dressings had been applied, the patient fell into convulsions, and became delirious. The novelty of these symptoms made my father suspect the cause.

"On the third day, all the caddis was removed. The flaps had become retracted, inflamed, and so painful, that it was impossible to attempt sutures. A trial was made with straps, so disposed as to have in some degree the effect of the uniting bandage. For twenty days, these did very little good; but, after that time, they assisted considerably in bringing the flaps together; the tumefaction of which began gradually to subside; granulation took place, and the wound cicatrized. But this was not accomplished in less than six months, nor without a great deal of trouble.

"Seven months after the operation, this patient was sent home, completely cured. The arm, fore-arm, and the hand, were perfectly sound. About two years after he left the hospital, he made his appearance at Bar. The cure remained complete, and the flexion of the fore-arm on the arm, was very distinct." p. 110—113.

But it is in complicated wounds of these joints, that the excision of the articulating ends of the bones promises to be generally useful, as in gun-shot wounds, compound dislocations, and similar accidents.

This practice is particularly insisted on by Mr Park. "It has been the invariable practice at the Liverpool Infirmary, for more than thirty years, to take off the protruded extremities of bones, in cases of compound dislocations, and I believe," adds Mr Park, "with invariable success."

Had this practice been applied to the case of gun-shot wounds, it would have saved, we doubt not, many a useful limb. Mr Park, accordingly, most earnestly recommends it to the military surgeon. It must now afford Mr Park the highest gratification to learn, that it has actually been carried into execution, and that several successful cases are now recorded by Larrey, in his *Relation Chirurgicale de l'Armée d'Orient*. He relates two cases of gun-shot wounds of the shoulder-joint, in which he removed the head of the humerus, and the articulating ends of the acromian and clavicle, and thereby saved the limb. And he tells us of eight other cases, which he treated in the same way, and with equal success *.

This operation has also been performed by Moreau, in a case of caries of the shoulder-joint, and with complete success.

The ankle-joint is so surrounded by tendons, blood-vessels, and nerves, as to render its excision, when diseased, particularly difficult; yet this operation, too, was undertaken by Moreau. He relates two cases of caries of the ankle-joint, treated successfully by excision.—And Mr Park gives one of compound dislocation of this joint, in which an inch and a half of the tibia was removed, and the edges of the wound brought together afterwards, by stitches. At the end of the third week, when the wound was uncovered, it was found perfectly united by the first intention. "It will readily be conceived," he adds, "that the soft parts would remain, for some time, in a thickened œdematous state, and the joint very little moveable. In a reasonable time, however, motion began to be recovered, and every action of the joint is now as perfect as in the other ankle."

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* Relation Chirurgicale de l'Armée d'Orient, p. 319.

From the collection of cases now before us, the success of this operation appears, in many instances, to have been much greater than the most sanguine hopes of Mr Park had anticipated. In proposing the excision of joints, he seems to have expected, in every case, an union of the divided bones by callus, and therefore a stiff, and comparatively useless limb. In many cases, however, and constantly in the elbow joint, this union of the bones does not take place, a certain degree of useful motion is recovered, flexion, and extension; and in the arm, a certain power of supination and pronation. It is, therefore, important, to spare, as much as possible, the tendons of the muscles moving the joint, and to preserve their insertions, if we can consistently with the object of the operation. This is the principal object of the observations of Dr Jeffray. The great difficulty of the operation, performed with this view, is in the division of the bones by the straight saw, and in the preliminary dissection. It occurred, however, to Dr Jeffray, that a saw might be constructed with joints, like the chain of a watch, so as to allow itself to be drawn behind a bone by a crooked needle, like a thread, and to cut the bone from behind forward, without injuring the soft parts. A drawing is given of this saw, which Dr Jeffray has annually used in the anatomical class, ever since the year 1790, and occasionally lent to surgeons, in their operations on the living body. It is just the saw we remember to have seen Dr Aitken of Edinburgh divide bones with, in his anatomical demonstrations, nearly twenty years ago, and which he called his flexible saw. The method of using it is thus described by Dr Jeffray.

"Having brought the bone that is to be cut, fairly into view, by incision, the flesh is to be separated from it all around, and by the finger if possible. The needle, which, it is scarcely necessary to say, should be blunt at the point as well as on the edges, at the same time that it should be elastic, and adapted, in curvature and size, to the depth of the wound and the diameter of the bone, should then be taken in the right hand; and, its point being brought to touch the surface of the bone on the right side, should be passed behind, and in contact with the bone, till sweeping a half circle, it be felt or seen in contact with the bone at the other side, where it now may be laid hold of, and drawn through. While the surgeon is thus employed, in passing the needle behind the bone, his assistant should attend to the saw, by letting it run through between his finger and thumb, so that its cutting edge shall be towards the bone. The saw being brought through, the needle is to be removed, and the handles hooked on. The surgeon should now place himself in a position to have the full use of all the muscles of his arms; and, having tried the saw gently, to see that its side is not to the bone, he should draw one end of it towards him smartly with one hand, and then the other with the other, till it cut the bone through; during which operation, the assistants should hold one end only of the bone fixed, for, if they press upon both, they will lock the saw, and retard the operation. The execution of the saw will be found to exceed expectation: for, as it is applied round one half of the bone, its cut is extensive. When, however, the bone is sawed nearly through, the surgeon should either keep his hands further separated from one another than he found it necessary to do at the beginning; or he should give one handle of the instrument to an assistant, and retain the other himself, that they may stretch out the saw, and thereby make it more like a straight saw, as it approaches the anterior surface of the bone, lest, being then bent too sharp, it break; of which, however, if the force exerted be not unnecessarily great, I can say there will be very little danger, having now used, and sometimes roughly, the same saw for these fifteen years past, without either sharping or mending.—From the account which I had in my power to give of this instrument to Mr Park, he was convinced, that in his operations it would have done him essential service; and, on considering attentively, the very accurate statements which Mr Moreau gives, of the difficulties he and his father met with in cutting the bones, there is reason to believe, that it would have been still more useful to them." p. 176—178.

By means of this saw, it is evident, that bones may be divided and removed, without the necessity of performing the large incisions, and extensive dissections, which are required to give room for the application of the common straight saw; and, therefore, that the tendons, blood-vessels, and nerves, may be more easily spared.

## VI.

## *An Account of a small Lobe of the Human Prostate Gland, which has not before been taken notice of by Anatomists.* By EVERARD HOME, Esq. F. R. S. Philosophical Transactions, 1806. Part I.

THE prostate gland is commonly described by anatomists, as resembling the heart painted on playing cards, having a projecting lobe on each side. The body of the gland closely embraces the neck of the bladder, and what are called the lobes are placed posteriorly and laterally; the whole very much resembling a chesnut. Every one who has had an opportunity of examining specimens of diseased prostate, must have observed, that the middle portion of the gland is the part very generally affected; that it is enlarged, forming a rounded or nipple-like tumour, projecting into the cavity of the bladder. In a case of this kind, Mr Home discovered a bridle, nearly one-fourth of an inch in breadth, extended from the middle line of the tumour to the bulb of the urethra, where it insensibly disappeared. This bridle appeared to have drawn the bulb towards the tumour, and shortened the membranous part of the canal; an observation which led Mr Home particularly to inquire how these tumours were formed, to examine the prostate gland in its natural state, and ascertain whether there is any part sufficiently detached to move independent of the rest of the gland, and explain the appearances which had been met with in this particular case.

The dissections, undertaken with this view, were conducted by Mr Brodie, of the Anatomical Theatre, Windmill-Street. The bladder was distended with water, and the parts to be examined brought into view. The vasa deferentia, and vesiculæ seminales, were dissected, and turned down upon the body of the prostate.

> " An accurate dissection was then made of the circumference of the two posterior portions of the prostate gland, and the space between them was particularly examined; in doing this, a small round substance was discovered, so much detached that it seemed a distinct gland, and so nearly resembling Cowper's glands, in size and shape, as they appeared in the same subject, in which they were unusually large, that it appeared to be a gland of that kind. It could not, however, be satisfactorily separated from the prostate gland, nor could any distinct duct be found leading into the bladder."

In five different subjects examined, the appearance was not exactly the same. In one, there was no apparent glandular substance, but a mass of condensed cellular membrane, different from the surrounding fat. In another, there was a lobe, blended laterally with the sides of the prostate gland. The following is given by Mr H. as the most distinct and natural appearance of this part, as observed in a healthy subject, 25 years of age.

> " Exactly in the middle of the sulcus, between the two posterior portions of the prostate gland, there was a rounded prominent body, the base of which adhered to the coats of the bladder. It was imbedded, not only between the vasa deferentia and the bladder, but also, in some measure, between the lateral portions of the prostate gland and the bladder, since they were in part spread over it, so as to prevent its circumference from being seen, and they adhered so closely as to require dissection to remove them;

nor could this be done beyond a certain extent, after which the same substance was continued from the one to the other. This proved to be a lobe of the prostate gland, the middle of which had a rounded form, united to the gland at the base next the bladder, but rendered a separate lobe by two fissures on its opposite surface. Its ducts passed directly through the bladder, on which it lay, and opened immediately behind the verumontanum. By means of this lobe, a circular aperture is formed in the prostate gland, which gives passage to the vasa deferentia."

Such is the account given by Mr Home, of the small lobe of the prostate gland, which appears so large, and so distinctly characterized in the engraved representation, as to render it surprising, that it should hitherto have escaped the particular notice of anatomists. If this is the constant and most natural appearance of this lobe, it must be allowed to be one of the most remarkable and best defined portions of the whole gland. It lies between the bladder and the vasa deferentia, which pass below it, and over the body of the prostate, in their way to the verumontanum, or, " by means of this lobe, a circular aperture is formed in the prostate gland, which gives passage to the vasa deferentia." Mr Home adds, that, previous to this discovery, it was not known to him " that any distinct portion of the prostate gland was situated between the vasa deferentia and the bladder. Those ducts were considered to pass in the sulcus, between its two posterior portions, in close contact with the body of the gland."

Other anatomists, however, we find, speak of the vasa deferentia *perforating* the prostate gland; a part of this gland must, therefore, have been considered as intervening between these ducts and the bladder.

" From each vesicula seminalis, and vas deferens, of the same side, a small canal, about a finger's breadth in length, passes out, which is firmly connected to its fellow, without communicating with it; and becomes gradually smaller, *piercing* obliquely the prostate gland, and terminating in the inner part of the neck of the bladder *."

Describing the course of this duct, Sabatier continues, " Ce n'est plus alors qu'un canal, qui *traverse* obliquement la prostate de dehors en dedans, d'arriere en avant, et de haut en bas, et qui va s'ouvrir au bas de la portion de l'urethre que ce corps glanduleux embrasse †."

A similar description is given by Portal of this duct, " Lequel *traverse* obliquement la prostate de devant en arriere, et de dehors en dedans, et s'ouvre dans le bulbe de l'urethre ‡, &c."

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* Fyfe's Compendium, Vol. II. p. 129.

† Traite d'Anatomie, Tom. II. p. 372.

‡ Anatomie Médicale, Tom. V. p. 440.

If this lobe, however described by Mr Home, be natural and constant, which is still doubtful, from the very account before us, since it was but a mass of condensed cellular substance, in one of the five subjects examined ; and was not alike in any two of them, the discovery will explain the nature and appearances of a disease very common in old men. " It not only explains the situation of the tumour, the want of connexion with the body of the gland, and the narrowness of its base, where that is met with, but it solves what has ever appeared to me the greatest difficulty, how it should protrude into the cavity of the bladder. This arises from the hard substance of the coats of the vasa deferentia being in close contact, and bound down upon this lobe, so that, from its first enlargement, it must immediately press up the inner membrane of the bladder, which can make very little resistance."

An early symptom attending diseased enlargement of this lobe, is difficulty in passing the urine ; an enlargement of the lateral portions of the prostate, Mr Home observes, rather widens the canal than diminishes it.

" The enlargement of this lobe (the new discovered lobe), produces an effect which is not generally known, and leads medical practitioners into an error respecting the nature of the complaint. The orifice of the urinary bladder, which is the lowest part in the natural state, is raised up, in proportion to the increase of this lobe, so that none of the contents below that level can be expelled, although whatever is above it, is allowed with more or less difficulty to pass out."

In this way the person never evacuates more than one half, or one third of the urine contained in the bladder ; but as the water which comes away passes in a stream, and the quantity voided in 24 hours is sufficient, no suspicion is entertained of the cause of the frequency and distress in passing it, and the symptoms are referred to an irritable state of the coats of the bladder. It is only by drawing off the urine through a catheter that the disease in this lobe can be ascertained ; as in that way alone the quantity of urine which is retained can be determined. No examination *per anum* can give the surgeon any information on this subject, since the posterior surface of the vasa deferentia only is to be felt, if the finger should reach so far ; and yet it is in this way that practitioners in general pretend to judge of the greater or less degree of the disease, although that portion of the gland, which forms the most important part of the complaint, is wholly out of their reach.

" The least projection of this lobe into the bladder stretches the internal membrane of that viscus which passes over it, keeps it in a state of irritation, and makes it liable to be grasped by the action of the sphincter muscle in expelling the last drops of urine, so as to give the patient excruciating pain. When it is more enlarged these symptoms go off."

This *ratio symptomatum* is sufficiently satisfactory. But we cannot avoid remarking, that this is not the first time the disease in question has been illustrated by a newly acquired anatomical fact. It is the very disease attributed by the French surgeons, after Lieutaud, to the enlargement of what he termed *la luette*, or uvula of the bladder, about which so much has been written. It is described as an eminence on the posterior part of the neck of the bladder, near the orifice of the urethra[*], and which when enlarged by disease, induces strangury, and obstruction of urine[†]. We shall quote from Sabatier a description of the disease; and for a number of cases, and much information on this piece of pathological anatomy, we refer our readers to the 42d and 66th Epistles of Morgagni. "La luette qui termine le trigone vesical est trés sujette a s'engorger; elle s'éleve alors sous la forme d'une *tumeur obronde*, qui tient ordinairement à un pedicule plus ou moins allongé, et qui bouchant le col de la vessie, s'oppose à l'expulsion des urines. C'est une cause assez frequente de retention d'urine dans les personnes avançées an âge: comme on ne peut la detruire, il-faut se contenter d'en corriger les effets. Le catheterisme est la seule ressource que l'on puisse employer. Souvent la vessie reprend le ressort qu'elle avoit perdu, et les urines recommencent à couler pour quelque tems. Lorsque le mal a fait beaucoup de progres, ce moyen ne reussit plus, quoique le cathèter n'éprouve aucun obstacle, et qu'il arrive jusques dans la vessie; mais on ne peut l'y faire entrer assez profondément pour parvenir au lieu qui occupent les urines. Il faut alors employer un catheter dont le bec soit fort long; ce moyen ne procure point à la vérité l'avantage de sauver le malade, mais il sert, du moins, à lui prolonger la vie autant qu'il est possible."

*La luette* of Lieutaud was not acknowledged by Morgagni. In his dissections he never could find it, when the prostate was sound. But he furnishes many examples of the disease, and concludes, that it is a projection or excrescence of the prostate[‡].

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[*] Haller Elementa Physiolog. Tom. VII. Lieutaud, Memoires de l'Academie, 1753.

[†] La grosseur démesuré de cette caroncle, qu'on peut appeler la luette de la vessie, est une cause assez frequente, et toujours inconnue, de l'ischurie. Lieutaud, Precis de la Médécine, p. 379.

[‡] Quod enim ego tuberculum in ipso urethræ initio nonnunquam deprehenderam, et *pro excrescentia prostatæ, saltem inchoata*, habueram id tuberculum

novissime

"Pro morbosa enim prostatæ excrescentia non immerito a me esse acceptam."

If Morgagni was right in his conjecture, the uvula of Lieutaud must be Mr Home's small lobe, "*the least projection* of which into the bladder, stretches the internal membrane of that viscus which passes over it."

# VII.

## *The Croonian Lecture on Muscular Motion.* By Anthony Carlisle, Esq. F. R. S. Read November 8. 1804. Philosophical Transactions, 1805. Part I.

The object of inquiry, proposed by Mr Carlisle in this lecture, is to give some explanation of the state, or changes which obtain in muscles during their contractions and relaxations; and to trace their corresponding connexions with the vascular, respiratory, and nervous systems. The observations, however, are rather desultory. A number of insulated facts, and a few experiments, are

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novissime legi, sine ulla dubitatione accipi pro naturali omnino, et omnibus communi particula, *uvulamque* appelari a Cel. Anatomico, cujus nomen non hic ideo omitto, quod ejus ingenium, diligentiam, et cætera merita non tanti faciam, quanti debeo, et hæ ipsæ meæ non uno loco ostendunt epistolæ; sed ut meam consuetudinem servem, quotiescunque ab docto aliquo et spectato viro qui vivat, et præsertim qui ex cætu illo inclyto sit, ex quo ipse est, cogor pro veri studio dissentire. Igitur si in omnibus sua ista *uvula* est; utar enim brevitatis causâ, hic eo nomine; jure miratur a me non esse conspectam." Morgagni then proceeds to illustrate his opinion by a number of observations. We add the following, as an example of the nipple-like projection of the prostate gland into the bladder, and which he considered as the *uvula* or *louette* of Lieutaud.

"Vesica demum urinaria cum esset immisso aere satis distenta parva aparuit si cum hominis statura, et ventris plerisque visceribus conferres. Attamen aperta, non visa est habere tunicas valde crassas nec vitium aliud ullum, nisi quod ab orificii posteriore parte intra illam exstabet *corpus parvi cerasi figura et magnitudine*, quod per subjectæ urethræ initium quo magis descendebat, eo magis, magisque se extenuebat, ita ut ad seminalem carunculam non perveniret. Læve erat exterius, ibique, et interius album, et evidenter adeo cum *prostata glandula* continuatum, cæteræque ejus substantiæ simile, ut ex ea excrevisse, non dubitares." "Nunc," he continues, "nunc si quartam hanc, et tres quas antea indicavi, meas excrescentiæ hujus descriptiones cum ejus *uvulæ* de qua loquimur, descriptione comparaveris; proclive tibi erit perspicere, eadem me vidisse, sive parvum, sive majus jam factum erat id corpusculum."—Epist. lxvi. 5. 6.

are strung loosely together; but their tendency is not always very obvious. For example, we perceive little connexion between the general subject of inquiry, or between any particular proposition laid down by Mr Carlisle, and the experiments made to ascertain the heat of the blood in horses, pigs, oxen, and sheep. In the horse, the temperature of the flowing blood was found to be 103°; in pigs, 106° and 107°; in the ox, 103°; in sheep, 105°; in the watery fluid issuing from a person tapped for dropsy of the belly, 101°. "And these temperatures," says Mr C. "are considerably higher than the common estimation." But the application of this most important inference, to any thing contained in the lecture on muscular motion, we have not been able to discover.

As illustrative of properties of the irritable muscular fibre, Mr Carlisle's observations and experiments, on the cohesive attraction of muscles, and on the crimping of fish, are more in point.

It is well known that the muscular fibre, while yet living and irritable, enjoys a much greater power of cohesion, than when it has ceased to be irritable. In confirmation of this fact, the following experiments are related:

> "The hinder limbs of a frog, attached to the pelvis, being stripped of the skin, one of them was immersed in water at 115° of Fahrenheit, during two minutes, when it ceased to be irritable. The thigh-bones were broken in the middle, without injuring the muscles, and a scale affixed to the ankle of each limb: a tape passed between the thighs was employed to suspend the apparatus; weights were gradually introduced into each scale, until, with five pounds avoirdupois, the dead thigh was ruptured across the fleshy belly of its muscles. The irritable thigh sustained six pounds weight avoirdupois, and was ruptured in the same manner. This experiment was repeated on other frogs, where one limb had been killed by a watery solution of opium, and on another, where essential oil of cherry laurel was employed: in each experiment, the irritable limb sustained a weight one-sixth heavier than the dead limb."

For some interesting observations on the effects of crimping fish by immersion in water, we refer our readers to Dr Blane's Croonian lecture on muscular motion. If a fish, susceptible of this operation, be scored deeply with a knife, and immersed in cold water, in a few minutes that contraction of the muscular flesh, called crimping, will take place. It is found that those fish crimp best, that are killed, immediately after being caught, by a smart stroke on the head. From Mr Carlisle's experiments, it appears that fish, during the process of crimping, not only acquire a considerable additional weight, but that the specific gravity is also increased.

> "Two flounders, each weighing 1926 grains, the one being in a state for crimping, the other dead and rigid, were put into water at 48°, each

being equally scored with a knife; after half an hour, the crimped fish had gained in weight 53 grains, but the dead fish had lost 7 grains."

The specific gravity of the crimped fish was 1,105°; of the dead fish, after an equal immersion in water, 1,090°. A piece of cod-fish, weighing twelve pounds, gained by crimping two ounces avoirdupois. It is probable, from other observations of Mr Carlisle, that the muscular fibre of all animals is susceptible of a change, similar to what takes place in fish during the operation of crimping. The hinder leg of a frog, having the skin stripped off, and weighing 77$\frac{1}{10}$ grains, was immersed in water at 54°, and suffered to remain 19 hours, when it had become rigid, and weighed 100$\frac{1}{4}$ grains. The specific gravity of this limb had also increased, as in the crimped fish. Six hundred and thirty grains of the subscapularis muscle of a calf, which had been killed two days from the 10th January, was immersed in New River water at 45°. After 90 minutes, the muscle was contracted, and weighed, in air, 770 grains. Its specific gravity was also increased. The following observation is curious:

" Some of the smallest fasciculi of muscular fibres, from the same veal, which had not been immersed in water, were placed on a glass plate, in the field of a powerful microscope, and a drop of water thrown over them, at the temperature of 54°, the atmosphere in the room being 57°. They instantly began to contract, and became tortuous."—" On confining the ends of another fibril with little weights of glass, it contracted two-thirds of its former length by similar treatment. The same experiment was made on the muscular fibres of lamb and beef, twelve hours after the animals had been killed, with the like results. Neither vinegar, nor water saturated with muriate of soda, nor strong ardent spirits, nor olive-oil had any such effect upon the muscular fibres."

The temperature of 100° speedily destroys the irritability of the muscles of cold blood animals, and of 110° those of warm blood. A low temperature seems rather to suspend the action of irritability than to destroy it.

" The amphibia and coleopterous insects become torpid at 34°; at 36° they move slowly, and with difficulty; and at a lower temperature, their muscles cease to be irritable. The muscles of warm-blooded animals are similarly affected by cold.

" The hinder legs of a frog were skinned, and exposed to cold at 30°, and the muscles were kept frozen for eight hours; but, on thawing them, they were perfectly irritable. The same process was employed in the temperature of 20°, and the muscles kept frozen for twelve hours; but that did not destroy the irritability."

A variety of substances, when applied to the muscular fibre, accelerate the loss of irritability. Narcotics, the muriate of soda, and the bile of animals, are mentioned as examples by Mr Carlisle. And this observation, without any other previous remark, immediately introduces experiments made with substances which rather appear to heighten, or at least to preserve the irritability of muscular flesh. The limb of a frog, immersed in a solution of liver of sulphur, was highly irritable at the end of 20 minutes, while another limb, which had remained an equal time in pure distilled water, was dead and inirritable. A solution of caustic alkali appeared also to exalt or preserve the irritability, while the muscles of another limb, immersed in diluted acetic acid, were not at all irritable. The exaltation of the irritability of the muscular fibre, by certain agents of the chemical kind, is a curious fact; and we regret that Mr Carlisle has not prosecuted so interesting an inquiry. We know that the alkalies, and their carbonates, some neutral salts in solution, the sulphurated alkalies, and even some metallic salts, raise the irritability of the muscular fibre in a very striking manner. We believe that this effect is accompanied by a change in the muscular flesh, similar to that produced by the operation of crimping. The flesh acquires a much greater degree of firmness, and is thrown into a kind of tetanic contraction.

We have thus laid before our readers, what appears to us the most striking facts and observations contained in this paper. We have selected them as they suited us, not as they are related by Mr Carlisle. For, as we before hinted, they are but loosely connected with the general subject of lecture. In this, after a rapid sketch of the history of muscular structure, Mr Carlisle confines himself chiefly to the subject of animal temperature, as connected with respiration, and to some account of the condition of hybernating animals, during their winter torpor. But no general application is made of these observations to the theory of muscular contraction. The irritability of the heart is allowed, indeed, to be inseparably connected with respiration. We are of opinion, that this connexion extends to all the other muscles. When hybernating animals pass into the state of torpidity, the respiration is suspended; the powers of sensation and voluntary motion are lost; and, last of all, the heart concludes its motions; and in the torpor produced by the respiration of noxious gases, voluntary motion is often completely suspended, while the heart yet flutters and contracts.

# VIII.

## *The Case of a Full-grown Woman, in whom the Ovaria were deficient.* By Mr CHARLES PEARS, F. L. S. Philosophical Transactions, 1805. Part II.

THIS woman died at the age of 29. Her stature was not more than 4 feet 6 inches, having ceased to grow at 10 years of age. She never menstruated; her breasts and nipples never enlarged more than in the male subject; there was no appearance of hair on the pubis; and she never shewed any passion for the other sex. The appearances observed after death were the following:

"The os tincæ and uterus had the usual form, but had never increased beyond their size in the infant state; the passage into the uterus, through the cervix, was oblique; the cavity of the uterus was of the common shape, and the fallopian tubes were pervious to the fimbriæ; the coats of the uterus were membranous; the ovaria were so indistinct, as rather to shew the rudiments which ought to have formed them, than any part of their natural structure."

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# IX.

## *A Description of Malconformation in the Heart of an Infant.* By Mr HUGH CHUDLEIGH STANDERT. Philosophical Transactions, 1805. Part II.

ALL the animal functions were regularly discharged during the short life of this child, who died at the age of 10 days. The only thing remarkable, was the purple or blue colour of the skin, which has given the title of *puer cæruleus* to such individuals. We are not informed of the circumstances of the child's death; a very extraordinary omission in the history of the case. All the viscera were in a natural state, except the heart, which presented the following remarkable structure:

"On viewing it externally, only one auricle could be observed, into which the pulmonary veins, and venæ cavæ entered, in their ordinary directions. The pulmonary artery was wholly deficient; and, on dissection, it appeared, that the body of the heart possessed but one ventricle, separated from the auricle by tendinous valves, and opening into the aorta. The auricle was also single, having a narrow muscular band, which crossed the ostium venosum, in the place of the septum. The aorta sent off an artery from the situation of the ductus arteriosus, which divided itself into two branches, supplying each mass of the lungs. These vessels were of small diameter. The pulmonary veins were four in number; but neither the area of these veins, nor that of the vessel which acted as the pulmonary artery, exceeded half the common dimensions."

## X.

*Gekrönte Preischrift über die von der Churfürstlichen Akademie nützlicher Wissenschaft zu Erfurt aufgegebene Frage: "Ist es nothwendig, und ist es möglich, beide Theile der Heilkunst, die Medicin und die Chirurgie, sowohl in ihrer Erlernung als Ausübung, wieder zu vereinigen? Welches waren die Ursachen ihrer Trennung, und welches sind die Mittel ihrer Wiederrereinigung?"* Von Johann Heinrich Jugler, M.D. &c. 8vo. Erfurt 1799.

Some apology is perhaps necessary, for noticing a work published so many years ago; but it was only lately that we met with it. To us it was perfectly new. It is probably so to most of our readers; and it is intimately connected with the plans of medical reform, at present the object of so much discussion.

In the years 1797 and 1798, the Electoral Academy of Useful Sciences at Erfurt, published the following prize questions:

"*Is it necessary, and is it possible, again to unite both branches of the healing art, medicine and surgery, in learning, and in practising them?*"

"*What were the causes which separated them; and by what means are they to be reunited?*"

Fourteen answers were sent in, of which thirteen were in favour of the union of medicine with surgery, and one against it. In the present publication, the essay to which the prize was adjudged,

judged, and which, it may be remarked, is the only one against reuniting the professions, is published at length, and a short analysis is given of each of the others, with remarks on their comparative merits. We shall present our readers with one or two of these skeleton plans, and afterwards give an analysis of the prize essay itself, that the arguments on both sides of the question may be fairly stated.

### " NUMBER I.

Motto.—*Nec minus chirurgo medicina, quam chirurgia medico opus est; ut male ex hominis superficie vel interna, vel externa unius scientiæ desumpta sit divisio.*

It contains four sections.

I. It is necessary to combine both sciences; because,
  (1.) They constitute one general idea. Their distinction exists only in schools, never in practice.
  (2.) A mere surgeon, as well as a mere physician, cannot practise scientifically.
  (3.) A mere surgeon, without medical knowledge, does more harm than good.
  (4.) The subdivision of the healing art encourages quackery and nostrums, at the expence of the purse and health of the community.
  (5.) The political war, in which so much blood has been shed, and the medio-chirurgeon is so necessary, affords a still stronger proof that the union is indispensable.
II. The possibility of learning and practising both at the same time, is proved by
  (1.) The history of the art of healing.
  (2.) Recent examples; Van Swieten, Richter, Siebold, Loder, Mursinna.
III. The causes of their separations were,
  (1.) Convenience in the early ages.
  (2.) The barbarous state of the sciences in the middle ages.
  (3.) Avarice and habit in the present times.
IV. Means of reuniting them.
  (1.) The government must be convinced of the evils arising from their separation,
    (*a.*) To the physical welfare of the people;
    (*b.*) In an economical point of view to the public.
  (2.) A complete plan of study drawn up by enlightened and upright individuals.

### " NUMBER VI.

———————*alterius sic*
*Altera poscit opem res et conjurat amice.*

To the first question, " Is it possible to unite medicine and surgery with each other ?" our author replies, that it is possible to learn both at the same time, for the following reasons:

(1.)

(1.) Medicine, in an abstract point of view, comprehends also surgery.
(2.) No defined limits can be drawn between the sciences.
(3.) Surgery, considered as mechanical dexterity, to act according to the directions of another, is not conceivable.
(4.) Were it conceivable, the person giving the directions must understand both.
(5.) Whoever unites in himself medical and manual surgery, must learn all branches of medicine.
(6.) In studying, both branches were never completely separated.

The possibility of uniting them in practice he proves, by the following particulars:

(1.) The extent of the science can only deter persons of mean capacity.
(2.) A really learned man must know more than the knowledge by which he earns his bread.
(3.) Surgery is only a small supplement to the knowledge possessed by a well educated physician.
(4.) There were, and there still are, degrees granted, *ex utraque medicina*.
(5.) The army has been always attended by *medico-chirurgi*.

The union of the study and practice of medicine and surgery is necessary,

(1.) Because, notwithstanding the objections to it, which are, however, groundless, the healing art can only be rendered perfect by reuniting them.
(2.) Because the jealousy and rivalship between the parties can only be terminated by this means.
(3.) Because in this way only, can incapable persons be excluded from the practice of medicine.
(4.) Because a sufficient number of good country and army practitioners will thus be obtained.
(5.) Because many patients may be saved by their union.
(6.) Because judicial reports from a half-physician, or half-surgeon, contradicting each other, mislead the judges.
(7.) Because private and public economy requires it.

Their separation is ascribed to the following causes:

(1.) The pride, conceit, and ignorance of the physicians in Rome, who entrusted the practice of surgery to an inferior class of men. But the separation was not universal, for Celsus taught, and Galen taught and practised medicine in all its branches. The Greeks of the middle ages, and the Arabians, were also undivided physicians,
(2.) Superstition, and the universal declension of the sciences.
(3.) The anathema published by the church against anatomy, which rendered it impossible to learn surgery fundamentally.
(4.) The hierarchy of Rome, which commanded this separation, under pain of excommunication.
(5.) The division of surgeons into *literati* and *illiterati*, which gave rise to distinct schools for each class, and to total separation.

They may be reunited by the following means:

> (1.) The removal of all obstacles, such as the age of the physicians; and the toleration of half-physicians and corporate surgeons.
> (2.) All means, hitherto employed for this purpose, have been inadequate and improper.
> (3.) Let physicians be divided into learned and able; let the latter be educated in fit seminaries for country practitioners; let the one be subordinate to the other, but in no oppressive degree; and let all violent revolutions in the medical constitution be avoided."

These will suffice on the one side of the question. We shall now proceed to the prize essay, in which Dr Jugler, after enumerating some treatises published on the subject, endeavours to shew, from a variety of historical documents, that the separation of surgery from medicine could scarcely but happen; and to point out the advantages, which, in his opinion, result from it.

"From the very general diversity of human talents; from the uniform progress of both sciences, of which surgery, in particular, stood in so much need; from the number of patients who require to be treated externally and internally, especially in populous places; and from the consequent want of time to favourite practitioners, such a division of the healing art became almost necessary, both in learning and practising it. Each person could thus apply with greater industry to learning his particular department of the science; survey better its extent; and comprehend and treat the diseases of his patients more thoroughly. A much greater number of patients could receive assistance, support, and consolation, from a great and favourite physician, than if one man was obliged to practise both sciences at the same time."

Dr Jugler, however, admits, that some inconveniences may attend their separation; that it may give rise to a greater degree of empiricism; that it may be very convenient for many patients to have their physician, surgeon, and even apothecary, united in one and the same person; and that it would be well if the physician knew so much of surgery, and the surgeon so much of physic, as to correct the errors, and to supply the deficiences of each other. But these considerations do not render their union necessary, in Dr Jugler's opinion; for it is not to be supposed that those who cannot rise above empiricism, when they confine their attention to a single branch, will be more scientific if they were to practise the whole; two heads, he affirms, are better than one; and in reality, all well educated physicians understand the principles of surgery, and good surgeons are not ignorant of medicine. In fact, he observes, neither at present, nor in former times, have medicine and surgery been entirely separated.

He then proceeds to point out the reasons which render an unlimited union impossible, such as the rights of the corporations already established, especially of the barber-surgeons and bathers; the degradation and insurmountable labour it would be for physicians to perform all the meaner operations of surgery for their patients; the different qualifications and inclinations requisite to form good physicians and good surgeons, the great extent of both sciences in these times, rendering it impossible for any person to become master of both; the want of a sufficient number of institutions for teaching medicine and surgery, especially the latter; and, if there were sufficient opportunities for education, the expence, which would be too great for most pupils. Upon the whole, Dr Jugler gives it as his opinion, that, although advantages may arise from a certain degree of union of the most necessary principles of medicine and surgery in one and the same person, that it is perfectly impossible to reunite them, either in learning or practising them, *generally, and without limitation.* He, therefore, offers no plan for that purpose, but concludes with some suggestions for the improvement of the state of surgery in Germany.

The inconsistency of Dr Jugler's reasoning is still more apparent, in his own statement than in our analysis. There is a constant struggle, between his good sense and the side of the question he has adopted, and even after all, he can hardly be said to differ from his thirteen competitors, who declare openly for the union of medicine and surgery, as it is not the question of the academy which he answers in the negative, but a very particular modification of it by himself. Every man of common sense will agree with him, that it would be absurd, if not impossible, to oblige every professor of the healing art, to study and practise both medicine and surgery in all their parts; but we are persuaded that they will consider as equally absurd, every restriction which prevents them from doing so when they think fit. As a science, medicine and surgery, are one and indivisible. The physician and surgeon must equally study the laws of the animal economy, in health and in disease. The indications of cure, and the action of remedies, to both are the same. In what, then, do they differ? In the accidental seat of the disease? Or, in the mode of applying the remedy? Or, in the circumstance of manual assistance? The impossibility of drawing an accurate line of demarcation between them has been long acknowledged, even in those countries which are most despotic in their regulations. Let us take, as an example, from Dr Jugler, the following order in 1787, of a state which has always endeavoured to subject every thing to rule, but has seen the necessity of granting a certain undefined degree of interference, between medicine and surgery.

"The study of surgery has been united with the study of medicine, that the surgeon may learn every part of the medical science, and the physician every part of surgery, which is useful or necessary to their respective professions. But it does not follow that either must make himself master of both sciences, in all the extent necessary to practise them; though either may devote himself entirely to that for which he has the greatest inclination; and on these principles is the imperial degree founded, which allows any person to practise that which he has studied completely, and in which he has been regularly examined. Therefore, if any one has passed his examinations in theoretical and practical surgery, and has received the degree of doctor in surgery, he is permitted to treat all surgical diseases, both internally and externally, because he has been specially examined, not only on the external, but also on the internal remedies of surgical diseases. But if he also wishes to practise medicine in all its extent, he must previously subject himself to examination in medicine; which the physician must also do with regard to surgery, in case he should chuse to exercise it *.

It would perhaps be better, were there no restriction whatever; were all exclusive privileges done away, the relation between the practitioners in medicine and the public, would easily find its natural level. The number and quality of those who make it their profession, would exactly suit the extent and nature of the demand for their assistance. In the country, and by the great mass of the people, those who practise every branch of the profession would be in request; while, in rich and populous cities, the encouragement would be sufficiently great to admit of that voluntary division of labour, which would carry the art to the greatest perfection. Young men entering upon practice, and those possessed only of moderate acquirements, even by the most diversified exercise of their information, would scarcely be able to indemnify themselves for their labour, and the expence of their education; while those distinguished by their natural or acquired talents, in proportion as their business increased, would confine themselves to those branches from which they derived the greatest profit, fame, or satisfaction, with least trouble. In a science such as medicine, where all the parts are intimately connected with, and necessary to illustrate each other, this voluntary division of labour alone can be useful, either to the science, the practitioner, or the public.

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* Johns Lex. der K. K. Medic. Geo. K. IV. S. 337.

## XI.

*An Essay on the Diseases incident to Indian Seamen, or Lascars, on long Voyages.* By WILLIAM HUNTER, A. M. Member of the Asiatic Society of Calcutta, Foreign Member of the Medical Society of London, Honorary Member of the Academical Society of Sciences of Paris, and Surgeon to the Honourable Company's Marine Establisment in Bengal. Calcutta. 1804. Folio. pp. 236.

THIS is a work of great value to those who practise in warm climates, containing many important facts connected with the health of our seamen and others, when necessarily subjected to various privations of air, food, or clothing; and, for the first time, accurately detailing the comparative effects of these deprivations on persons of such opposite habits, as the European and the natives of Hindostan.

In the execution of his duty, as surgeon of the marine establishment in Bengal, Dr Hunter was called upon to examine into the cause of an unusual mortality among the native crews of some of the country ships, which returned from England in 1801; and the singularity of the disease, its rapid progress, and fatal termination, having arrested his attention, he omitted no opportunity of collecting further information concerning it; and to this zeal we are indebted for the present volume. It consists of an essay, in which he has stated the result of his inquiries, and twenty-three long appendixes, containing, besides other important communications, the materials from which it was composed. From the essay, itself, we shall copy his account of this singular and deplorable disease.

" Of this disease, which occasioned the most alarming devastation, on board the Mornington, the Arran and the Exeter, as full an account as could be collected from the officers of those ships, will be found in Appendix, No. I. and the following is a short description of the symptoms, collected from the histories of those three voyages.

" The disease commenced with œdematous swelling of the feet, accompanied with stiffness and numbness of the joints. These two symptoms appear to have been so nearly simultaneous, that it is difficult to say which of them preceded the other. In some instances, an aversion from motion was observable for a day or two, before the appearance of those complaints; in others, the men continued their usual exercise and duty, while the swelling was confined to the feet. But it rapidly extended upwards, occupying the legs and thighs. When it reached the abdomen, it caused severe dyspnœa, which increased to such a degree, that the patient seldom survived one day after the distention had extended as high as the stomach.

" In one instance, the fatal dyspnœa was not attended with any perceptible swelling.

" Death was preceded by pain at the scrobiculus cordis, increased by pressure; and about this time, many had bilious vomitings.

" The face was swelled and bloated. Thirst great, during the whole disease, but much increased a little before death. Urine scanty, and voided with difficulty. They were, in general, costive. No account is given of the state of the appetite, or of the pulse.

" None of the cases exhibited any swelling, sponginess or bleeding of the gums; or any spots, or sores, that could be deemed scorbutic, on the limbs, or any part of the body. Some, indeed, of the crew of the Arran, had sores, proceeding from an itchy, or herpetic affection; but those appear to have rather served as a salutary drain, than to have formed a part of the disease.

" The whole duration of the complaint, from the first seizure, to its fatal termination, was often comprised within the space of two days; and it appears to have seldom exceeded twenty.

" In the only dissection which was made of the dead, a small quantity of water was found in the cavity of the abdomen; and the cellular substance, all over the body, was greatly distended with the same fluid. The cavities of the chest, and of the pericardium, did not contain more than the usual quantity. The viscera of the thorax and abdomen were perfectly sound.

" I. The first, and principal cause, is *general debility*, proceeding from the following sources:

" 1. *Food, deficient in nourishment, or in stimulating power.*

" In order to estimate the effect of this, it is necessary to premise a knowledge of the food to which these people are accustomed on shore. This chiefly consists of *rice* and *dál*, (the split seeds of several leguminous plants, but chiefly of the *Cytisus Cajan*) to which is added a considerable quantity of *ghee* (or *butter*, clarified by melting, without salt) and the whole is seasoned with *onions*, *garlic*, *capsicum*, *ginger*, and *turmerick*. They eat very little animal food, not from prejudice, or religious obligation, but because they cannot afford it.

" On board of those ships, the provision of the lascars consisted of *rice*, as much as they could eat. In some of the ships they had split pease to mix with it, and salted herrings; but the first of these articles was expended long before the end of the voyage, and the allowance of the second was stopped, after sickness began to appear. They had salt butter instead of ghee. On board of the Arran, they had *capsicum;* but, for the other articles of condiment, they were obliged to depend on their own private stock. They had plenty of water; and, on board the Arran, had small beer to drink, for a fortnight after leaving Portsmouth. During their residence in England, the lascars had a pretty full diet of animal food; and beer for common drink.

" Thus, their diet on board, appears to differ from that which is usual to them on shore, in two respects; that salt butter could not be used in such quantity as to supply the place of ghee; and that the condiments to which they were accustomed, were wanting, entirely, or in part. The last defect was probably the most powerful in causing disease; for greasy substances, which have been found instrumental in producing scurvy, could hardly prevent a distemper which appears allied to it in so many respects. And the effect produced on the natives of India, by the want of condiment, is strongly exemplified in the case of the Bengal sipahees, related in Appendix No. 11.

"But, on the passage out, when the disease chiefly prevailed, the operation of this cause was greatly promoted, by the crew having been accustomed, while in England, to a more nourishing and stimulating diet than in their own country; whereby debility, produced by the abstraction of stimulus, became proportionally greater.

"This remarkable circumstance, that the lascars, on the voyage to England, encountered, with impunity, all those causes of disease which depend on the elements, to a much higher degree than outward bound, when they became a prey to its ravages, was remarked on board of most of the ships. And thence we must draw one of two conclusions: Either that the fuller diet of animal food, which the lascars had in England, was not so well calculated to maintain them in health, as the slender fare to which they are accustomed in their native country; or, that the sudden withdrawing of a good nutritious diet, was more severely felt than the want of it would have been, if it had never been enjoyed. Of these, I have no hesitation in adopting the last; in conformity to which, I would recommend, not abstinence from animal food in England, but the continuance of its use, for some time after going to sea; and the gradual reduction of it, as the ship approaches a warmer latitude. The opinion of Mr M'Rae is exactly that which I wish to inculcate, "while in England, they were accus-
" tomed to the free use of butcher's meat and vegetables, of which they
" were deprived at sea, and a far inferior diet substituted in its room; this
" I consider to have been the chief cause of scurvy." A more stimulating diet, in a colder climate, I consider to be equally necessary for a lascar, as warmer clothing. And the converse of this proposition I also believe to be true; that among Europeans, transported to a tropical climate, those are most likely to enjoy exemption from disease, and to bear, when necessary, exertion in the sun, who most nearly imitate the abstemious diet of the natives.

"But the effect of a difference in diet, between people whose situations, in other respects, were nearly similar, is most strongly exemplified in the case of the gun-lascars, embarked on the Superb transport, and those belonging to the ship, related in the communication with which I was favoured by Mr Wake, who had the medical charge of the detachment on board. The gun-lascars, besides other comforts of which the crew were deprived, had fresh *provisions* (that is, animal food) twice a-week. And this, in the opinion both of Mr Wake and Captain Brown, contributed much to the preservation of their health.

"2. *The respiring of an Atmosphere, which was deficient in Oxygen.* To this cause, the crews of all the ships, except the Lucy Maria and Countess of Sutherland, were exposed; and it is one of the leading circumstances, (next to that of diet) in which Mr Wake states the situation of the gun-lascars, on board the Superb, to have been better than that of the ship's company.

"3. *Preceding disease.* The crew of the Mornington had fevers, and those of the Arran pulmonary complaints, at early periods of their voyages.

Those of the Exeter were received on board in a sickly state. Acute diseases have, from the earliest times, been enumerated among the causes which predispose to dropsy. And it is worthy of remark, that the ancients esteemed those dropsies which are ushered in in this manner, to be the most rapid in their progress, and the most fatal.

" 4. *Intemperance.* The sickly condition of the Exeter's crew before leaving England, is ascribed to this cause; and it, no doubt, produced a morbid predisposition, in many who had not then been seized with actual disease. Similar causes of predisposition are hinted at on board the Aurora and the Countess of Sutherland.

" 5. *Indolence and want of Exercise* This cause appears to have especially prevailed on board the Exeter, and its operation was undoubtedly powerful.

" 6. *Excessive Fatigue.* This cause, which is no less productive of debility than its opposite, did not occur in the ships where dropsical swellings prevailed; but it had its share in the inducing of disease on board the Aurora and the Countess of Sutherland. It is also mentioned by Capt. Wright, among the causes of the scurvy which afflicted the crew of the Superb.

" II. Suppressed perspiration, brought on by

" 1. *Exposure to Cold and Moisture, after remaining some time in a close and warm situation.* To this might also contribute,

" 2. *The impurity of the air in the berth assigned to the lascars;* as such air being already impregnated with human effluvia, cannot be supposed to carry them freely off.

" 3. *The dampness of the lascar's berth;* which was increased by frequent washing, in circumstances where the deck could not be effectually dried. This seems to have been particularly the case on board the Mornington; and the same remark is made by Dr Hare on the Aurora.

" 4. *Inattention to cleanliness in the dress of the lascars.*

" 5. *Want of sufficient covering in cold and rainy weather.*"

The only other diseases which occurred among the lascars, were fever, pneumonia, phthisis, and hepatitis, and are very briefly noticed. The remainder of Mr Hunter's essay consists of detailed instructions, drawn up at the desire of the Board of Trade, for commanders of ships sailing to England with lascars, and of course, confined to those means which may, with safety, be intrusted to men not of the medical profession. They regard diet, exercise, ventilation, and medical treatment.

The Tenth Appendix is of peculiar importance. It contains an account of two diseases analogous to the *Anasarca Cacotrophica* of our author. The first of these, the *Cachexia Africana, Mal d'Estomac*, or *dirt-eating*, has been noticed by various writers on tropical diseases, but more particularly by Dr Davidson, in the Second Volume of the Medical Repository, whose account of it Mr Hunter has reprinted. The other, which seems to be identical with that of the lascars, occurred among our troops employed in the Candian war, and has long been known in various parts of India under the name of *Beriberi*, a Cingalese word, signifying bad sickness, but now, for the first time, minutely and accurately described by Messrs Christie, Colhoun, Holloway, and other medical officers attending the troops in Ceylon. Notwithstanding the length of the quotation we have already made from this work, we shall make no apology for extracting Mr Christie's remarks in the sick register of the 80th regiment.

"The *Beriberi* is a disease of a peculiar nature, which has been extremely frequent, and fatal amongst all the troops, both *Europeans* and natives in this settlement.

"In the milder cases of this disease, the patients are first attacked with some stiffness of the legs and thighs, and this is succeded by numbness and œdema, sometimes paralysis of the lower extremities.

"In the course of a few days, if not prevented by medicine, these symptoms are succeeded by swelling of the whole body, attended with a sense of fulness of the belly, and more particularly with weight and oppression at the præcordia; dyspnœa, starting in the sleep, and all the usual symptoms of hydrothorax.

"In the latter stage, the dyspnœa and anxiety become extreme, the uneasiness at the epigastrium increases, attended with almost constant vomiting, and occasionally spasms of different muscles: the pulse becomes very feeble, the lips and countenance livid, and the extremities cold.

"Some fever, with delirium, often now accede, and terminate the life of the unfortunate sufferer.

"In the more sudden and severe instances, the patients, from the first, complain of universal debility and extreme oppression, anxiety and dyspnœa. In some of these instances, the progress of the disease is so rapid, that it carries off the patient in six, twelve, twenty-four, or thirty-six hours, after its first attack: more frequently, however, its duration is for several weeks.

"In a few cases, where the disease was no less fatal, there was not any swelling observable externally; but the patient, with the other smyptoms, had evidently the bloated leucophlegmatic face of a dropsical person.

"Upon dissection of different subjects, who had died of this disease, more or less water was found in one or all the cavities of the chest; most commonly in the pericardium, but in general, more inconsiderable than might have been expected from the violence of the symptoms. The cellular substance surrounding the heart was, in some instances, loaded with water; and the heart seemed, in two or three cases, of an uncommon size. In one instance, in which the progress of the disease had been very rapid, I found a large coagulum of lymph in the right auricle. The cellular substance of the lungs was, in many cases, loaded with water. In a few cases, also, there was water effused in the cellular substance on the surface of the brain; and, in one instance, more than an ounce of water was collected in the ventricles. In most cases, water was found in the abdomen, and cellular membrane throughout the body; and, in many subjects, there was a remarkable obesity, even after a long continuance of the disease, and of the use of mercury, antimony, and other powerful medicines.

"Men of every constitution are occasionally attacked with the *Beriberi*, but the aged and debauched seem to be most liable to it; and men who have once had the complaint, are the most subject to it in future. I have remarked, that a very great proportion of the patients, seized with this disease, were men who were accustomed to lead a sedentary and debauched ed life, such as taylors, shoemakers, &c. who, when working at their trade, are often excused the duty of the field, and, by their double earnings, are enabled to procure a larger quantity of spirits than the other men.

"I have never met with an instance of this complaint in a woman, an officer, or a boy under 20; although persons of every description seem equally liable to the other diseases of the place, such as fever, flux, or liver complaint.

"It would appear that a stay for some months on the station, is almost essential for the production of the disease; and that the greatest predisposition to it exists, when troops have been about eight or twelve months in the settlement.

"The 72d regiment and Coast artillery landed here in July 1795. The *Beriberi* was with them most prevalent in the autumn of 1796; but they had little of it in March 1797, when it was extremely frequent with the 1st battalion *European* infantry, who had arrived here in August 1796.

"The 80th regiment relieved the 72d in March 1797, but suffered little from the disease till the November following. The Honourable Company's *Malay* corps arrived here, from *Jaffnapatnam*, in June 1797; but the complaint did not appear amongst them till the January following, when it became very frequent and fatal. Two hundred drafts joined the 80th at *Trincomalie*, on the 3d of January 1798; but none of these men had the disease in January, February, or March, although it was then very frequent with the other men of the regiment: since that time, however, these drafts have been at least as subject to it as the other men.

"Various modes of cure have been attempted in this disease: but I have of late uniformly pursued the following plan, with uncommon success.

"In the more mild cases, the patients are immediately put upon a course of calomel and squills. The perspiration and other evacuations are promoted by saline drinks, or small doses of antimonial, or James's powder; and the strength supported by cordial liquors, most generally gin punch, which assists much the effect of the squills.

"By these medicines, the symptoms are very often removed in the course of a few days; except the numbness of the extremities, which generally remains longer than the rest. Pediluvium and stimulant liniments are then ordered to the extremities, and the patients are put upon a tonic plan, of bark and wine, or porter, which is continued for some time after all the symptoms have disappeared. In the more severe cases, where the dyspnœa, vomiting, spasms, or other symptoms are violent, it is necessary to apply blisters to the breast, to make use of fomentations, and the hot bath, and to exhibit the strongest cordials, and antispasmodics, as brandy, and particularly laudanum and vitriolic æther. By these means I have, in most instances, been enabled to relieve the dyspnœa, and other urgent symptoms; and procure time for the exhibition of the medicines mentioned above, which it is sometimes necessary to use for several weeks.

The Twenty-third Appendix contains some valuable observations from a friend, to whom Mr Hunter had submitted his essay, tending to establish the identity between scurvy and the disease of the lascars, and Mr Hunter's remarks in reply; but for these we must refer our readers to the work itself.

# PART III.

## MEDICAL INTELLIGENCE.

### *Parliamentary Inquiry into the State of Vaccination.*

His Majesty has been graciously pleased, in compliance with an address from the honourable House of Commons, to direct his Royal College of Physicians of London, to inquire into the present state of vaccination in the united kingdom, to report their observations and opinion upon that practice, upon the evidence adduced in its support, and upon the causes which have hitherto retarded its general adoption.

The College are now engaged in the investigation of the several questions thus referred to them, and give this public notice, that they are ready to receive information from medical practitioners, as to the result of their experience and inquiries upon the subject of vaccination.

All letters to be addressed to the Register of the Royal College of Physicians, under cover to Earl Spenser, Secretary of State's Office, London.

James Harvey, Register.

*College of Physicians,*
*Nov. 20. 1806.*

### *Dr Jenner elected an Honorary Fellow of the Royal College of Physicians of Edinburgh.*

On the 20th of May 1806, on the motion of the President, Dr Jenner was unanimously elected an Honorary Fellow of the Royal College of Physicians, and the election intimated to Dr Jenner, in the following letter:

Sir,—In absence of Dr James Home, Secretary to the College of Physicians of this city, I have the honour to inform you, that, at a meeting held this day, and for the express purpose, you were unanimously elected an Honorary Fellow of the College.

This mark of distinction, with a very few exceptions, has, for the last 50 years, been confined to foreign physicians of the first eminence. The college have conferred it on you, in testimony of their conviction of the immense benefits which have been, and will, they trust, in all future ages, be derived to the world, from inoculation for the cow-pox, and as a mark of their sense of your very great merits and ability, in introducing and promoting this invaluable practice.

As an individual, allow me to express the satisfaction I feel, in conveying to you the sentiments of the body to which I belong, and in which, at present, I have the honour to preside.—I have the honour to be, Sir, your most obedient humble servant,

(Signed) THOMAS SPENS, C. R. M. Ed. Pr.

*Royal College of Physicians of Edinburgh,*
*20th May* 1806.

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## *Copy of a Letter, on the Subject of Medical Reform, sent to Dr Harrison of Horncastle, Lincolnshire.*

SIR, *Edinburgh, 13th October* 1806.

I AM directed, by the Royal College and Corporation of Surgeons of Edinburgh, to inform you, that they have perused with attention the Plan of Medical Reform, contained in the printed copy of correspondence with which you have been pleased to favour them.

From the most correct information which they have been able to procure, the College are inclined to believe, that the practice of medicine in this country, so far from being in a low and degraded state, is, at present, in all its branches, on a more respectable footing, and its practitioners better educated, than in any former period. The College have had much satisfaction in observing, for a series of years, the gradually increasing knowledge and acquirements of those who present themselves to the College as candidates for surgical diplomas.

The College, however, are by no means disposed to deny that abuses exist in the practice of medicine, in this as well as in other countries; but they are, at the same time, convinced, that the powers and privileges with which the different Universities, Colleges, and Corporations of Physic and Surgery, in this part of Great Britain, are already invested, are sufficient, if duly exercised, for the correction of the greater part of these abuses; while other abuses, and those of which your correspondents chiefly complain, are not of a nature to be easily rectified by legislative interference, or by legal prosecutions.

With this conviction deeply impressed upon their minds, you will readily perceive that it is unnecessary for the College to enter into any discussion of the merits of a Plan of Reform which the state of medical practice in this country does not seem to them to require; and which does not provide better for the instruction of future candidates for surgical diplomas than the regulations already adopted by the College, a copy of which I have been directed to transmit to you along with this letter.—I have the honour to be, Sir, your most obedient humble servant,

WILLIAM FARQUHARSON,
President of the Royal College and Incorporation of Surgeons of Edinburgh.

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## *Copy of the Regulations which were certified by the Clerk of the College, and transmitted along with the above letter.*

" A candidate for a Surgeon's Diploma, having served an apprenticeship to a regular practitioner, of three or more years, must also have attended lectures and demonstrations on anatomy and surgery, and lectures on the practice of medicine, and on chemistry, in any University of reputation for two or more years; or lectures and demonstrations on these subjects by any teacher of reputation, who is a member of the College of Physicians or Surgeons of London, Dublin, or Edinburgh, or other reputable college. But, if the candidate has not served an apprenticeship, he cannot be taken on trial, till he has attended the above lectures and demonstrations for at least three years, and also lectures on materia medica and pharmacy, and the practice of medicine and surgery, in a public hospital for one year."

## *Circular Letter, sent to the Surgeons in the Service of the Honourable East India Company, with a view of promoting the study of Natural History in that Empire.*

Sir,—Having been directed by the Governor-General in Council, to procure an account of the animals of India, and having been instructed to apply to you for assistance, I request that you will have the goodness to transmit to me a list of the quadrupeds (Mammalia) which are to be found in the country adjacent to your station. This list may be divided into four columns, according to the accompanying form.

In the first column, you will please to insert, 1st, The scientific name of each animal, should it have been described by any author in your possession. 2dly, The name commonly given to each by the Europeans residing in India; and, 3dly, The names given to each in the different native dialects. These ought to be written, both in their proper characters and in Roman letters.

In the second column, you will please to insert, in what number each species is found; for instance, whether it is numerous, common, or rare; whether it is solitary or gregarious.

In the third column, may be inserted the places where each species inhabits; for instance, woods, grass-jungles, (that is, wastes covered with long reeds and grass), hedges, or fields; on trees, in holes of the earth, tanks, rivers, or marshes.

The fourth column will be occupied by the food of each species; whether flesh, birds, reptiles, insects, worms, roots, herbage, leaves, fruits, or grain.

I hope that, in the first place, you will have the goodness to transmit to me, as soon as possible, a list of the before mentioned nature, in which may be comprehended, such animals as have come to your knowledge, or such as you can hear of by consulting some intelligent native. To this list you, from time to time, can send such additions as further inquiries may enable you to make.

If you can favour me with any well authenticated facts, relative to the habits of even the most common wild animals in your vicinity, or with an account of the manner in which they are caught or destroyed, you will very much promote the views of this government, respecting the establishment put under my care.

It must be observed, that many of the names used by the natives are generic, that is to say, they are applicable to several distinct species of animals, which, however, have a general resemblance. This may be expected to be the case, particularly with monkeys, squirrels, bats, rats, and mice; and with the smaller animals of the cat and ferret kinds. Whenever, therefore, favourable opportunities offer, it would be desirable that you should send preserved skins, or living specimens of all the smaller animals. Preserved skins of the larger animals, with the horns and skulls, will also be very useful in ascertaining the animals; in procuring which, it may hereafter be necessary to request your assistance. These specimens, together with all rare, beautiful, or singular birds that you can conveniently procure and transmit, may be directed to the care of Mr. Bennett, keeper of the Governor-General's menagerie at Barrackpore, who shall take charge of them, should I happen to be absent.

In increasing the collection at Barrackpore, or in procuring specimens, the funds of the institution will not admit of any expence being incurred, but that of the most urgent nature. Except, therefore, where particularly authorized, you will avoid sending any specimens, dead or living, in the procuring or transmitting of which any expence will be necessary. Government naturally expects, that the all public officers should gratuitously afford every assistance in their power, towards promoting the objects of the institution; and every person, especially those high in office, has occasional opportunities of procuring what is curious. It is therefore hoped, and expected, that they will have the liberality to communicate what they thus obtain, to an institution carried on entirely on public motives, without gain or reward to any person. From the medical gentlemen, it is chiefly expected that they should take upon themselves the trouble of the correspondence, and of making the inquiries that may be necessary.

Should you, however, have applied to the study of any branch of zoology, or comparative anatomy, and chuse to favour me with your observations on these subjects, you may be assured, that, in all the communications which I make, either to this Government or to the public, your assistance will be thankfully acknowledged, and fully represented; and that your language, so far as may be practicable, will be preserved. Should any person in your vicinity pursue these studies, I hope you will inform him, that I shall consider myself as highly favoured by a correspondence, on conditions similar to those which I have just now mentioned.—I have the honour to be, Sir, your most obedient servant, FRANCIS BUCHANAN.

*Calcutta,* 31*st Dec.* 1806.

## *Further Account of the* Medical School *at Vienna.*

THE medical school at Vienna is celebrated throughout Europe; but, like most of such far-famed places, its merits appear to have been exaggerated, and more talked of than understood. The reputation of this seminary was founded, many years ago, upon the character of the professors then resident there; and it has been rising and falling with the changing circumstances of the times. Every institution of this sort must be indebted for its celebrity, to the talents and labours of the professors and students; it is the persons, not the place; the men and the manners, not the customs and ceremonies, which can alone bestow any deserved credit upon any university, or give to degrees conferred there, any true honour. *Van Swieten* is a name familiar to every one acquainted with the history of medical literature; it was he who raised the reputation of the medical chair, and, indeed, of the University at Vienna, as the course of studies, the number of professors, and the college regulations, were new modelled and arranged by *him* and Professor Rieger, under the sanction of that distinguished Empress *Maria Theresa,* in 1756. The University has been established since the year 1237—it has never been remarkable for any splendid talents among its members; and, in this respect, it has shared the common lot of Austria, which has been particularly barren of great and distinguished characters. Among so many public teachers, it is almost impossible not to have some men of good abilities, and respectable attainments; and it would be easy to point out several departments of the medical class, which are at this moment most excellently well filled The chemical and botanical chairs are occupied by *Professors Jacquin,* the father and son, who are both well known by their valuable publications on botany and chemistry. The natural history class has two very able professors, in *Professor Jordan* and *Professor Schreibers;* and anatomy and physiology are extremely well taught by *Professor Prochaska.* The professors are paid by the government; the largest salary is 2000 florins, (200l.) per annum; the smallest about 800 florins per annum. All the lectures are public, and delivered gratuitously; the only fee that each student is obliged to pay every year, is the sum of thirty florins, which goes towards a fund destined for the maintenance of a certain number of indigent scholars. There are no particular buildings appropriated for the residence of the students; nor do they in general wear any particular dress, except a certain number of students of theology, who live together in a seminary endowed for the church, and always appear in public, dressed in black clothes, with purple gowns and cocked hats. The college consists of a large building, appropriated for rooms for the lectures, for the public examinations, and for the collections of anatomy and natural history. The university-hall, where the honours and degrees are conferred, is particularly handsome; and the lecture rooms are, in general, large and convenient. A library belongs to the college, not very extensive, and apparently more calculated for show than use, as none of the books are allowed to be removed, except by some special grace and favour. Six professors are attached to the divinity class; and the course of theological studies must be attended four years. Nine professors of law; and the course prescribed is four years. Ten professors belong to the class of philosophy; and the course three years. There are ten professors attached to the class of medicine; and those who intend to practice as physicians and surgeons, must attend the different lectures for the space of five years. Every medical student is obliged, by the statutes, to attend the several courses of philosophy and medicine five years; and he must attend two years out of the five at the public hospital—he pays 30 florins annually, for four years, which entitles him to be free to all the lectures, and to the hospital. The fifth year he pays nothing, and he can then take his examination for a degree. He undergoes three examinations in private, before the whole medical faculty, these are generally an hour and a half long, and are reported to be strict and severe: the graduates publish no thesis. Two courses of lectures are given during the year; the winter course commences in November, and ends in April; the summer course begins in April, and ends in August—two months only are left for holidays. In many branches of the medical class, there are two degrees of professorships, one called the ordinary, the other extraordinary; the latter is filled by a junior member of the University, who lectures in the summer, or fills the place of his senior in case of illness, or any absence from his duty. This accounts for the number of professors in the German Universities, which makes so formidable an appearance, when the printed list is read over by a foreigner. The number of students, in the different classes at the University of Vienna, amounts to about eight hundred; and one third of these study medicine. The accommodations for dissection are good; and bodies are furnished in great abundance from the hospital, at a very cheap rate. The Emperor

Joseph II. in 1784, by the advice of *Brambilla*, ordered the lectures to be delivered in the German language, instead of the Latin, as they had usually been given—the consequence was, that vast numbers of young men without education, put themselves in the way of assuming the title of doctor; and the town of Vienna was soon overrun by persons calling themselves physicians, because many convents were abolished about the same time, which prevented them from becoming monks. Graduates of any university, were allowed to practise at Vienna; hence, the profession became too much crowded and degraded; and it was necessary, lately, to set aside some of the capricious innovations of the late Emperor, and to make the access to a degree more difficult, and the necessary passport, some classical education. Some of the lectures—and all the examinations, are now held again in Latin. This scheme for improving the state of medical practice, failed in its execution, the intention, however, was good, as it came from a sovereign, who endeavoured to do more for the improvement of medical men, and the health of his subjects, than all the governments of modern Europe. It will be sufficient to adduce, by way of example, the history of the Royal Military Academy, which is called after the noble founder's name. The *Josephine Academy*, is one of the most distinguished monuments of the enlightened benevolence of Joseph II. Before his time, the study of military surgery had been very much neglected, and was in such a low state, in the Empire, that surgeons for the army, were necessarily sought for in other countries; hence, the Emperor was induced to establish an academy, for instructing his own subjects in the several branches of the healing art: for this purpose, a considerable space of ground was bought, and a handsome building erected, and the Academy was opened, in November 1785, by the president *Brambilla*. He was the first appointed to this office; and he drew up the rules and regulations of the institution, in a style quite characteristic of a genius of Germany, they occupy no less than two quarto volumes! There are six professors, who undertake different departments of instruction in anatomy, surgery, and medicine. The five senior take the office of president by rotation, and they remain in that office for two years. They have the rank of Counsellors of State to his Majesty; and they are physicians and surgeons on the medical staff of the army. A military hospital is attached to this Academy, upon a very large scale, and under good regulations. The total number of students amounts nearly to two hundred, some of them have appointments in the army, and enjoy particular privileges, such as boarding and lodging at the Academy, &c.—all of them wear a uniform, and are in some measure under military regulations. The lectures are delivered in the German language; and the course of studies is continued for two years, without intermission; at the conclusion of this period the students undergo an examination, and those who are deemed qualified, have a diploma granted to them, and are presented with a medical commission in the army. There is an useful library for the benefit of the pupils; it is a upon a small scale, but contains the principal and best practical authors in various languages. In the middle of the library stands a marble bust of the founder, with the following motto:

"JOSEPHUS II. AUGUSTUS.
"HIC VERO PRIMUS."

The cabinet of natural history, contains a few specimens of the three kingdoms of nature, chiefly, however, to illustrate the lectures on materia medica, and chemical pharmacy. But the principal curiosity at this institution, is the anatomical collection of wax figures. All the different parts of the human body are modelled, and represented in coloured wax, after the manner of the celebrated collection at Florence, and under the direction of the same distinguished man, *Felix Fontana*. The bones, and muscles, and ligaments, are represented in profuse variety—the more delicate preparations of the blood-vessels, nerves, lymphatics, and soft parts, are particularly beautiful, and above all, the morbid preparations. This kind of wax modelling, is well adapted for showing diseased appearances, such as cancerous tumours of the breast, and cutaneous disorders, and the various morbid affections of the eyes, &c.; a great variety of figures of this description are to be seen, they are of different sizes, and occupy several rooms, in glass cases, with drawings hung over each preparation; and the description, written in three, sometimes in four different languages, is contained in a drawer underneath. Many whole length figures might have been spared, these are made according to some of Albinus' tables, and are unnecessary, besides being disgusting to the eye, from the flaring red and yellow, and the faded colour of many parts. The skeletons, and the preparations of the muscles, and blood-vessels, would have been much better made from dried and injected subjects. Some delicate preparations of the nerves, made by *Fontana* himself, are very valuable, since they give distinct views of some difficult and important parts of anatomy, which can seldom be shewn in the dead body. A complete series of preparations, of the gravid uterus, and the different positions of the fœtus, in natural and complicated labours, fills one chamber. The whole collection is rich and valuable, in many respects—it is said to have cost upwards of 80,000 florins, and it has all the merit of being uncommon.

## *Quarterly Report of Diseases treated at the* PUBLIC DISPENSARY, *(near Carey-street,) London, from* 31. *August to* 30. *Nov.* 1806.

### ACUTE DISEASES.

| | No. of Cases. | | No. of Cases. |
|---|---|---|---|
| Synochus | 26 | Erysipelas | 2 |
| Rheumatismus acutus | 7 | Dysenteria | 13 |
| Hydrocephalus | 1 | Cholera | 7 |
| Arthritis rheumatica | 6 | Hepatitis | 1 |
| Catarrhus | 38 | Peritonitis | 1 |
| Peripneumonia | 9 | Phlegmasia dolens | 1 |
| ——— notha | 1 | Abortus | 1 |
| Hæmoptysis | 7 | Ophthalmia | 1 |
| Variola | 2 | Pertussis | 1 |
| Rubeola | 6 | Febris infantum | 8 |
| Scarlatina Anginosa | 4 | Dentitio | 2 |
| Herpes zoster | 2 | Cynanche tonsillaris | 4 |
| Urticaria | 4 | ——— parotidæa | 1 |

### CHRONIC DISEASES.

| | No. of Cases. | | No. of Cases. |
|---|---|---|---|
| Vertigo | 8 | Pleurodyne | 2 |
| Cephalæa | 10 | Rheumatismus chronicus | 35 |
| Asthenia | 27 | Lumbago et sciatica | 5 |
| Syncope | 1 | Nephralgia | 2 |
| Hæmicrania | 1 | Leucorrhœa | 12 |
| Dyspepsia | 9 | Menorrhagia | 6 |
| Gastrodynia | 21 | Amenorrhœa et chlorosis | 7 |
| Hæmatemesis | 1 | Dysmenorrhœa | 1 |
| Icterus | 1 | Hysteria | 1 |
| Dolores hepatici | 1 | Epilepsia | 3 |
| Enterodynia | 8 | Paralysis | 3 |
| Diarrhœa | 25 | Hydrops | 11 |
| Verminatio | 3 | Scrofula | 1 |
| Marasmus | 6 | Scabies | 4 |
| Tabes mesenterica | 1 | Pityriasis | 1 |
| Tympanites | 2 | Psoriasis | 4 |
| Hæmorrhois | 4 | Lichen | 1 |
| Catarrhus chronicus | 58 | Prurigo | 6 |
| Asthma | 1 | Impetigo | 6 |
| Phthisis pulmonalis | 16 | | |

During the month of September, and the greater part of October, the temperature of the atmosphere was mild, and tolerably uniform; and there was little rain till towards the end of the latter month. From that time, to the middle of November, the weather was more variable, though, on the whole, mild; and the latter part of the month was wet, but the fogs have been more rare, and less intense, than is usual at this season in London.

A very large proportion of the catarrhal and rheumatic complaints have occurred within the last three weeks; the former have been chiefly severe among children, in whom they assumed the form of peripneumonia. The breath became rapidly short and difficult, the heat of the skin greatly increased, and the pulse much hurried; the cough was frequent, short, and attended with a rattling noise. These symptoms, however, were much more alarming than fatal; they generally yielded speedily to blisters.

The number of diseases of the alimentary canal has been nearly in the same small proportion, as in the two former autumnal quarters, since the commencement of these reports, the season having been mild in a similar degree. Other disorders, however, connected with the derangement of the biliary system and bowels, have occurred more frequently than the mildness of the season would have led us to anticipate; especially the summer fever, headach, vertigo, &c. The summer fever, or synochus, has prevailed to a considerable extent, but its symptoms have not followed the precise course described by Galen, and Sauvages *, under the titles of Synochus *biliosa* and *S. ardens*, nor of that which Dr Willan has described; neither has it changed its type, during October and November, to a more typhoid or malignant form, according to the usual course of the bilious fever of autumn, as mentioned by Drs Sydenham, Fothergill † and Willan ‡. The first attack was, in some instances, commenced by a sudden headach and vertigo, which were followed by pains in the limbs and loins, thirst, and moderate heat of skin, with little preceding shivering. The tongue was generally covered with an uniform white fur, which sometimes inclined to a brown colour in the course of the disease. The bowels were usually rather costive in the beginning, and there was, in several cases, a slight tension and tenderness of the abdomen, especially about the umbilicus. The pulse was from 90 to 120, sometimes with a slight sharpness in its beat, but more frequently feeble, and almost always small. In a very few instances, a slight degree of delirium was observed. In those who were seen within three or four days from the attack, a moderate dose of calomel and rhubarb gave speedy relief to the symptoms, and the fever proved of short duration. But in those in whom the fever had already continued for six or eight days, who had been making a free use of wine and other stimulants, or in whom the evacuation of the alimentary canal had been neglected, it proved generally obstinate; purgatives, though emptying the bowels occasioned no diminution of the febrile symptoms, and diaphoretics, and cordial medicines, were equally inert; the pulse continued frequent and irritable, the tongue furred, the skin rather hot, and the limbs very feeble and languid, till, by imperceptible degrees, the patient found himself in a state of recovery. Children, who have been attacked with this disease, were generally very quickly relieved by gentle evacuations of the bowels.

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* Nosol. Method. Cl. II. Gen. III. Spec. 6.

† Observations on the Weather and Diseases.

‡ Report on Diseases in London.

Headach and vertigo have occurred in several instances, obviously in connexion with the state of the stomach and bowels, and readily removed by the use of gentle laxatives and absorbents. A vertigo, which may be termed *biliosa*, appeared in some cases, without any headach, coming on suddenly, at intervals, in an extreme degree; so that even sitting, the patient with difficulty supported himself. The digestive powers were greatly enfeebled, and sickness occasionally ensued after taking food. The bowels were slightly constipated; the tongue white; but the pulse natural, or even slower than natural; and the skin cool. Moderate doses of magnesia vitriolata, with magnesia itself, in some cordial distilled water, aided, if necessary, by a small dose of calomel, were soon followed by a return of health.

The term *Plegmasia dolens*, has been appropriated by Dr Hull of Manchester, to the swelling of the lower extremity in puerperal women, which was first described by Mr White of the same place, and afterwards more clearly elucidated by Dr C. B. Trye, of Gloucester. This is a painful anasarca, generally of one leg only, commencing at the top of the thigh, and extending downwards, with extreme pain and tenderness of the limb. Notwithstanding the various recent discussions on the subject, the nature of the disease seems to require further elucidation. The application of leeches to the groin, and of cold to the limb, and the repeated use of laxatives and diaphoretics, removed the complaint in the course of a fortnight. The reduction of the swelled limb was aided by a gentle friction, after the pain and tenderness had gone off. The whole limb had been fomented, before I saw the patient, apparently with the effect of increasing the soreness of the limb, and without diminishing the severity of the pain. The disease is somewhat rare; it is described as frequently running a course of 12 or 14 weeks. Three cases, which I have seen, yielded in less than a month; two of them within a fortnight.

*London, Nov.* 30. 1806. THOS. BATEMAN.

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## TO CORRESPONDENTS.

We have received Mr VEITCH's communication *on Amputation at the Hip Joint*.

THE

# EDINBURGH

# MEDICAL & SURGICAL JOURNAL.

1. APRIL 1807.

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## PART I.

## ORIGINAL COMMUNICATIONS.

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### I.

### *Observations on Amputation at the Hip-Joint.* By JAMES VEITCH, Esq. Surgeon, Member of the Royal Medical and Physical Societies of Edinburgh, and lately Surgeon of the Royal Naval Hospital, Plymouth.

FROM the nature of the duties which the surgeon has to perform, it often happens, that the most formidable and alarming accidents are suddenly and unexpectedly presented to him; and which require immediate aid, otherwise, the unfortunate patient sinks a victim to the accident which has befallen him. Strongly impressed with the necessity of being able to afford the most prompt assistance, when called upon to attend those suffering under wounds and accidents, and actuated with a desire of doing this as effectually as possible, I have been generally in the habit of particularly revolving the more important operations of surgery in my mind; and, in proportion to the difficulties which attend them, have they commanded my attention, with the double view of being able to meet them with composure when presented to me, and of devising means for averting, as far as practicable, the occurrence of such difficulties. In naval, as well as military life, the duties of the surgeon present a grand and animating picture, by the ravages which they enable the constitution to repair, and consequent disasters which they avert. The mind of the surgeon, on whom this feeling strongly operates, will often be rewarded, with the most delightful of all satisfactions, in restoring a fellow creature to health, his children, and his friends, who must certainly have perished without his interference : and this exalted and refined sentiment will be excited, in proportion to the dangers which the patient laboured under, and which consequently roused, in proportion to their magnitude, the genius, self-command, and intrepidity of the surgeon.

Amongst the many operations to which my mind has carried me, previous to performing it on the living body, that of amputation at the hip-joint has been repeatedly the subject of my attention ; and the result of my reflections is, that the present aversion to this operation is not well founded, as it appears to me to be practicable, and often likely to be followed by recovery, where, without it, the patient must be consigned to his grave. The necessity of amputation at the shoulder often presents itself, and the operation is often performed with success. The same causes which give rise to amputation at the shoulder-joint, will be found to require the same resources from surgery at the hip-joint ; but here, the operation is less frequently performed, from its being more formidable in its nature ; and certainly, when we weigh this operation on its own base, and compare its probable effects upon the constitution, with any other single operation, we must admit the hazard to be very great, under the present mode of performing it. Amputation performed at the hip-joint, as a last resource, is certainly fraught with more danger than the same operation at the shoulder-joint, or any other part of the body ; still, it ought not, on this account, to be declined, where it can remove a disease, or remedy the effects of an accident, that must certainly prove fatal to the patient. It is a misfortune, that Mr Pott imbibed opinions injurious to the useful tendency of this great and necessary operation, as his authority was calculated to have much weight on the minds of professional men ; and probably has, in many cases, reconciled them to the idea of relinquishing it. I will venture to affirm, that had he adopted a different line of conduct in delivering his opinions on this subject, and not acted towards this operation, in a manner somewhat inconsistent with the principles which he has clearly and ably laid down, under those circumstances where a patient is placed between the necessity of submitting to an operation or the grave, that amputation at the hip-joint, would, long before now, have rewarded the surgeon with as great a proportion of success, as other operations of this nature.

Mr Pott says, "to remove, or even to relieve any of the miseries to which mankind are liable, is a very satisfactory employment; but to attend on a distemper from its beginning, through a long and painful course, to its last fatal period, without even the hope of being able to do any thing which shall be really serviceable, is, of all tasks, the most unpleasant. In such cases, any attempts, however hazardous, provided they were rational, would be justifiable; certainly then, whatever is not in itself dangerous, and affords the smallest ray of hope, ought to be embraced." Here I coincide most perfectly with Mr Pott; but it is truly singular, that a great surgeon, influenced by such feelings as reflect credit on his heart, should abandon this useful principle, and be found to say, that "amputation in the hip-joint, is not an impracticable operation (although it be a very dreadful one), I very well know. I cannot say, that I have ever done it, but I have seen it done, and I am now very sure I shall never do it, unless it be on the dead body."

The opinions of Mr Pott, on this important operation, do not seem in unison with his great talents as a surgeon; they appear to me the result of some hasty prejudice, and do not run like that stream of useful information, genius, and elegance generally pervading his works. I contend, in conformity to the opinion first quoted from Mr Pott, that no necessary operation ought to be discarded, because it is formidable; but, on the contrary, this character of the operation ought to constitute a strong reason, why it should be minutely cultivated, and made familiar, in all its parts, to our judgments, and our feelings, which appears to me to be the true mode, both of rendering service to our fellow creatures, and of overcoming difficulties. The great objection to this operation is, the difficulty of commanding the hemorrhage, under any mode hitherto adopted with which I am acquainted; and, in consequence, the great chance of the patient dying under the hands of the surgeon. Taking up the artery, after passing from beneath the ligament of Fallopius, does not avert this danger; and it is further objectionable, as adding the operation of aneurism to that of amputation. If the danger from hemorrhage can be overcome, certainly the depth and extent of incision will prove no serious objection to this operation being performed; and, by the mode of operating which I am about to describe, this difficulty will, I hope, be completely surmounted. The man who suffers double amputation of legs or thighs, or of one leg and one thigh, has certainly a greater extent of wound and irritation inflicted on his constitution, than in the operation now to be described *.

The patient is to be placed on a table, of the height usually employed in amputation, when the tourniquet is to be applied in the groin, so as to act on the superior part of the femoral artery. The assistants will now secure the patient, support the limb, and retract the integuments, as in cases of ordinary amputation. This being done, and the surgeon placed on the outside of the thigh, he will commence his first circular incision, on the same principles as in the ordinary amputation of the thigh, and carry it through the integuments and fascia, freely into the substance of the subjacent muscles, which the assistant will immediately retract, to enable the surgeon to commence, without delay, a second circular incision, at a point somewhat higher, to be carried directly to the bone. When the muscles are completely divided, the next object is to cut the bone an inch or two below the circular incision; with this view, a longitudinal incision is to be made on the inside, and another on the outside of the thigh, commencing each incision at the top of the inferior section of the muscles, and carrying it towards the knee, somewhat more than two inches from the place of its commencement. This being done, the muscles are to be dissected from the bone, in the direction of the knee, to the extent of an inch and a half, near which point the bone must be divided. This part of the operation, it is evident, can give no pain, and will not occupy half a minute. The next step is to secure all the blood-vessels, as in ordinary amputation, to which the removal of the leg, in the manner directed, gives the most perfect access. The blood-vessels being all properly secured, the tourniquet must be removed, and the patient is now to be placed on the sound side, when an incision is to be made, commencing about two inches above the trochanter, and continued in a direct line with that projection, to the extremity of the stump. We are now to consider the bone as a tumour or foreign body, to be removed by expert and steady dissection, commencing from below upwards, and detaching, in the direction of the acetabulum, the adhering muscles on each side. The muscles attached to the trochanter being freely cut, the capsular ligament must be divided circularly, from within outwards, or *vice versa*, according to the thigh operated on, (following the margin of the socket); and during this process, an assistant must press the bone towards the opposite thigh, which will force it from its socket, and enable the surgeon to lay hold of the head of it, and easily separate the attachments of the muscles from the inside of the bone, a step, in this operation, which ought always to be deferred until the head of the bone is thoroughly dislodged, by the division of the ligamentum rotundum *.

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* The formidable and fine operation for aneurism, performed by Mr John Bell, is a more immediate proof of how little is to be dreaded, from mere extent and depth of incision.

It must now be evident, that the reason of my leaving a part of the thigh bone projecting beyond the muscles is, to enable my assistant, or the surgeon, to use it in some degree as a lever, to accomplish its own removal. From the nature and extent of the parts divided, in the second stage of the operation, there would be some reason for apprehension, did the surgeon not possess the most perfect access to, as well as command over, every vessel which he divides. Time is no object; the safety and recovery of the patient is the only consideration; the surgeon is, therefore, when he divides a vessel of any consequence, to make his assistant cover it with his finger, or a sponge, and deliberately to take it up. In removing large tumours, this mode of securing the vessels is attended with considerable advantage; and here it cannot fail to strike with peculiar force. I some time ago removed a tumour, of twenty years standing, from the back of a sailor, that measured three feet three inches in circumference, and weighed four pounds four ounces. I also, a little time back, in the Royal Infirmary of this place, saw Mr Law dissect out, with much precision, a tumour seated on the side and back, that weighed twenty pounds. This operation, as well as my own, was attended with the most perfect success.

When the bone is removed, every vessel is to be secured by a single thread, one half of which is to be taken off, as recommended by me, in a little essay on the ligature of arteries, and secondary hemorrhage, published in the sixth number of this Journal, under the head Inquirer, and signed J. D. I may here observe, that I extend the mode there recommended, of tying the blood-vessels, and arranging the ligatures, to all operations where it is necessary to secure the vessels by ligature, and particularly to extirpation of the testicles, and aneurism, operations where it has been almost the constant practice, not only to use one very broad ligature, but to apply a second equally broad, by way of greater security. Broad ligatures stretch, insulate, and derange the relative communications of the extremity of the vessel thus taken up, and excite excessive irritation, so that the sources of vitality, of the part treated in this manner, are in many instances cut off, and secondary hemorrhage is

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* The crucial division of the capsular ligament may be adopted, and is probably preferable to the circular.

a consequence. The single ligatures (which I consider a great advantage), come sooner away, than under the usual mode of taking up the blood-vessels; and their safety has been established in sixteen different cases of amputation above the knee, five below, two of the fore-arm, one of the arm, performed by myself; and in none of these cases did any thing in the form of secondary hemorrhage occur.

The ligatures in the course of the longitudinal wound, are to be gently, and easily drawn out, laterally, and as nearly as possible on a line with the mouths of the vessels secured, and the wound is to be closed with adhesive slips. The circular wound is next to be closed, when the same principle, as to the distribution of the ligatures, is to be attended to, as recommended in the paper just noticed. The ligatures are to lie easily, attached to the extremities of the divided vessels; and particular care is to be taken in the application of the adhesive slips, to avoid extending them like vibrating cords. This wound is likely to heal with great rapidity, as the removal of the bone takes away the resistance it would give to the union of the soft parts, and which, to a certain degree, it does in every case of ordinary amputation; and, independent of resistance, its hard, sharp edge, and rough extremity, may act on parts so acutely sensible from recent division, to a certain degree, as a foreign body, until the economy of the system adapts itself to the loss which the constitution has sustained. It is almost unnecessary to recommend, in the removal of the thigh bone by dissection, keeping the knife as close to the bone as possible, in the circular dissection, as well as in separating from above downwards, or *vice versa.* The distance at which the incision is to be begun from the superior part of the thigh, must be ascertained by the circumference of the thigh to be operated on, and then measuring the half of its diameter from the pubic side of the thigh. The mode of operating which I have just described, may be, in many cases, usefully extended to amputation at the shoulder-joint.

It was my intention to have closed this paper, by adverting to a note attached to a valuable and interesting case of aneurism, communicated by Mr Abernethy, in the last number of the Edinburgh Journal; but this I decline at present, as I may at a future period command a sufficient leisure, to enable me to resume the subject of the ligature of arteries, as well as amputation at the hip and shoulder-joint †.

*Edinburgh, November* 1806.

II.

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† Mr Thomson, the ingenious, and able Professor of Military Surgery at this place, did me the honour of perusing this paper in manuscript; and has re-
commended

## II.

### *Letter to Dr James Hamilton, Senior Physician to the Royal Infirmary of Edinburgh, on the Cure of Scarlatina.* By JONATHAN BINNS, Physician, Lancaster. Communicated by Dr Hamilton.

I THINK the public much indebted to thee, for the "Observations on Purgative Medicines." The facts speak strongly in favour of the practice in various diseases; yet I think thou appearest inclined to ascribe too much of the success of the treatment of scarlatina at Ackworth School to purgatives, probably from a supposition that they were used much more plentifully than was really the case. I judge so from thy remark, p. 39. of 2d edition, that "calomel was given in repeated doses, *to an extent beyond former example.*" From this, I suppose thou must have received some erroneous information respecting it, as it is very different from what I expressed in Dr Willan's work on Cutaneous Diseases. My expression, p. 357. is, "*small* doses of calomel, and other laxatives, were *occasionally* administered." The children were from about nine to fourteen years of age, and the dose made use of was generally three or four grains of calomel. I do not recollect ordering more than five grains, even on recovery, to the oldest and stoutest of the children; and during the increase of the disease, it was *mostly* given without any other laxative medicine, so that it seldom operated more than as a gentle laxative; and it was rarely given more frequently than once in three or four days, and then only in case of costiveness, except when the disease was on the decline.

I think it probable that I could not be deceived in the doses, as the medicines were made up in the apothecary's shop belonging to the school, either under my own inspection, or by my immediate direction, by a person on whom I could rely.

It appears by a quotation of Dr Willan, p. 356. that "Dr Rush gave calomel in *moderate* doses, *in every stage of the* disorder:" and from the Ipswich account, quoted by Dr Willan, as well as by thyself, *mercurius dulcis*, (another term for calomel), was given to *children* in doses, from five grains to a *scruple*, and even to *half*

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commended the operation, as well as the mode of ligature which I have introduced, and practised with so much advantage, to the particular attention of his pupils.

*half a drachm.* These must be allowed to exceed what was given at Ackworth.

Thy opinion of the use of purgative medicines in this disease, as mentioned, p. 31. appears to be " only to remedy the impaired action of the intestines, and secure the complete expulsion of their contents; and thus to prevent any accumulation from remaining to aggravate the severity of the symptoms, and produce further source of suffering to the patient." But surely that is far from being all that ought to be done in this alarming disease. Nay, I find, in p. 34. thou allowest, that " the use of purgative medicines in scarlatina, does not supersede the other sources of relief and comfort, which have been found proper in the treatment of the disease," &c. Yet thou seemest to think that what was due to calomel is ascribed by me to gargles, I suppose from my expression, in p. 363. that " it was *chiefly* owing to them that few of the children at Ackworth School had a diarrhœa, or any affection of the alimentary canal." I had before allowed, p. 357. that " calomel, and other laxatives, had a *tendency* to prevent excoriations of the intestinal canal, and the consequent diarrhœa." Yet, as the frequent use of gargles, I apprehend, checks the gangrenous and putrid tendency of the tonsils and neighbouring parts, by correcting and diluting the acrid or viscid matter generated there, and causes it to be discharged by the mouth, they prevent much of it from being swallowed, and the deleterious effects which it would produce on the stomach and intestines; and surely it is better to do this, than to have it to pass through the whole length of the intestinal tube, and so require to be evacuated downwards by purgatives. And though I think thus highly of gargles, I do not conceive that they, or even purgatives, have any immediate effect in diminishing the general febrile state of the system in this disease, which I consider *of the first importance.* To counteract this, as well as the extreme debility, and the disposition to general putrescence, the bark, aromatics, *ammonia,* or vitriolic acid, wine in large quantity, sometimes brandy, very nutritious diet, &c. were given, as will appear by perusing p. 363—5. of the work before quoted. And this practice, which to some has appeared inconsistent with the extreme heat of the body prevailing in this disease, I have attempted to defend in a letter to Dr Willan, which is inserted in the 15th Vol. of the Medical and Physical Journal, p. 491, *et seq.* I shall now take the liberty of subjoining, as an additional proof of the safety and utility of the liberal use of wine, &c. a case which occurred a few months ago, in which particular atttention, at my request, was given to the quantity of wine taken by the patient. I think much is not to be ascribed here to the purgative given at the commencement, as the patient was evidently more feverish after it.

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1806. 20th 6th month. Ann Brunton, daughter of John Brunton, Sun-street, Lancaster, aged nearly two years and three quarters, was yesterday, a little before noon, observed to be dull. About three o'clock this morning, she had a slight convulsion. I saw her about nine. She complains of pain in the back of the neck; her skin is hot; but she will not allow me to feel her pulse. On inquiry, whether she has any complaint in the throat, the reply from the mother was, she had not observed it; but supposes her daughter may have worms.

Capiat protinus Pulv. Ipecac. gr. vi.

On visiting her again about noon, understood that the powder had vomited her gently; fever nearly as before.

℞ Calomel. gr. ij.

Pulv. Rhabarb. gr. vi. m. ft. pulv. *sumendus hora prima pomeridiana.*

21st. Meridie. I understand she vomited again in the evening, and afterwards had one copious, and two small loose stools. I find her now very hot; and the skin red, but without rash; and on inspecting the throat, the tonsils manifest considerable ulceration. She had very little sleep in the night, but appears very drowsy. Some days ago she played with another child labouring under the scarlet fever.

℞ Pulv. Cinchonæ. ʒ ij.

Pulv. Aromat. gr. xij. m. div. in pulv. vi. capt. i. secunda quaq. hora.

℞ Infusi. Rosæ. rub. ℥ vij.
Acid. Vitriol. dilut. ʒ ij.
Tinct. Myrrhæ. ʒ vi. m. pro gargarismate, *exulceratis faucibus ope siphonis immittendo, præsertim ante potionem.* Let her drink plentifully of red port wine.

Seven in the evening. I learnt that she began to use the gargle, and take the powders about three o'clock; has taken two powders, and drunk about a tea cupful of wine; seems much cooler, and every way better. *Cont. Med. et Vinum.*

22d. Half past nine, A. M. Has had a tolerable night; the heat moderate. Continue the same means. Half past four, P. M. Not quite so well, and rather more heat. Continue.

23d. Meridie. Has had a moderate night. The heat abated. I was now permitted to feel her pulse, which is 124 in the minute. The throat, on inspection, appears rather better. No rash, and the redness of the skin diminished. Continue the same plan. Six, P. M. nearly the same. Has just finished a bottle of red port wine, of the usual size. She has taken the whole of this bottle within 51 hours, which is the chief drink she has taken; a few times it was diluted with water; sometimes she has also taken a little water alone, and once this morning some milk. Continue powders, gargle, and wine.

24th. 11 A. M. Did not rest well last night, and is fretful this morning, so that it was difficult to feel the pulse; but it appeared to be about 130. No extraordinary redness on the skin, except on the face, and this probably arises chiefly from crying. Continue. 9 in the evening. She is now asleep, which affords me an opportunity of feeling the pulse, it is now 120. Her mother says, she breathes better than she has done for several days. She has considerable corrosive discharge from the nose, which I omitted mentioning before. Was very unwilling to take the powder this evening; was sick with it, and vomited a good deal of phlegm, but takes the wine very well. No stool to-day. Continue medicines and wine.

25th. 11 A. M. A rather restless night, but not very hot; fretful this forenoon. Discharge from nose continues considerable. Continue. 7 in the evening. Seems cheerfuler; has had a costive stool.

26th. As well as yesterday. Still costive.

℞ Pulv. e Scammon. cum Calomel. gr. iv. *Capt. nocte aut mane.*

27th. Meridie. Is nearly well. The powder has opened her moderately. Has taken nearly another bottle of red port, and more than a pint of elderberry wine. The mother seemed surprised that the wine produced no intoxicating effect on so young a child; this I think is a proof that the disease is of a very debilitating nature, and that it requires very invigorating medicines and regimen.

It is possible I lay too much stress on the cordial plan, while I am apprehensive thou ascribest too much to purgatives in this disease; and it seems to me probable, that Dr Waldon * confides too much in the antiseptic powers of carbonic acid gas, overlooking the quantity of spiritus cinnammomi, which appears to have been given in the proportion of from six to twelve ounces in 24 hours; this quantity of brandy, (no inconsiderable quantity if taken by children) combined with a powerful aromatic, I have no doubt had some share in his signal success. It may be seen in Dr Willan's work on Scarlatina, that in the epidemic at Ackworth, I frequently added brandy to the wine; and, on some occasions gave the brandy alone; and in a case that lately occured here, the patient rejecting the wine and medicines by vomiting, undiluted brandy was given with very beneficial effect. Though the affusion of cold water was not had recourse to in the above case, I should think it an injustice to the memory of my late worthy friend, Dr Currie, (who was formerly my colleague in the Liverpool Dispensary), were I not to express my full conviction, that it ought to be used in the beginning of this disease, in most cases in which the heat of the body is much increased, if the patients and their friends will submit to it.

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* See Medical and Physical Journal, Vol. XVI. p. 552.

I now wish to infer, from the preceeding observations, that it is not proper to place our chief reliance on evacuating medicines, as the sheet anchor in this disease, though I consider them in various cases, not only safe, but useful to a certain extent, and probably safer at Edinburgh, on account of its "peculiarly healthy, airy, and dry site," than in many other places, more especially in the southern part of the island, as I have endeavoured to shew is the case in erysipelas *. I should therefore think it adviseable to caution young practitioners, against too frequently irritating the stomach and intestines with medicines of this class, as any thing beyond the evacuation of the acrid matter, will probably tend, not only to weaken the whole frame, but diminish the efficacy of some other medicines, particularly the bark: yet in the supervening dropsical affection, which I consider as a *sequela*, rather than a stage of this disease, I acknowledge the utility and efficacy of brisk purgatives, followed by diuretics and tonics; but this termination, so much dreaded by thee, very rarely occurs under the treatment I recommend. I shall, however, by way of appendix, add a case, to which I was lately called, and which I conceive was of this kind.

I flatter myself, after this explanation, thou wilt unite with me in opinion, that it was not to the purgative medicines that the success in treating the scarlatina at Ackworth School was chiefly to be ascribed; that calomel was not given there in repeated doses, to an extent beyond former example; that I have not imputed benefits to other remedies, which resulted from purgatives, or expressed any thing in Dr Willan's Treatise, which unjustly derogates from their efficacy, but have given those employed by me their due share of merit; and that, though I have spoken of gargles as an important remedy in this disease, I consider them, as well as laxatives, merely as auxiliaries to the still more important,

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* See Medical and Physical Journal, Vol. XV. p. 492.

portant, cordial antiseptic plan. I am, with much respect, thy friend,
Jon. Binns.

*Lancaster*, 1*st of* 1*st month*, 1807.

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*A Case of difficult Breathing after Scarlatina.*—The 21st of 9th month, 1806, I was desired to visit a girl at Wilson's Boarding-School, in this town, about nine years of age, who had undergone the scarlet fever in the beginning of the month, during which she took, by the direction of her surgeon, the oxygenated muriatic acid; also a decoction of the yellow bark, with acetated water of kali; and afterwards, the same decoction, with some of the tincture and vitriolic acid; and after these, one dose of calomel, which was worked off with cream of tartar whey, and manna. Appearing quite well, except a little debility, she took no more medicine till the day I was sent for, when her countenance was rather bloated; but there were no other symptoms of disease. I ordered the calomel to be repeated at bedtime, and the cream of tartar whey, with manna, in the morning; and immediately after the operation of these medicines, to begin to take the following electuary.

℞ Ferri præcip. ʒ ij.
Pulv. arom. ʒ i.
Cons. Aurant. cort. ℥ iss.
Syr. ejusdem q. s. ft. elect. *cujus devoret ægra quantitatem nucis moschatæ ter die, superbib. potionem Vini diluti.*

22d. She took very little of the electuary, for this evening she was seized with sickness, thirst, and some shortness of breath.

℞ Conf. arom. ʒ i.
Aquæ Cinnam. ℥ iv. m. *Capiat coch. i. pro re nata.*

23d. The complaints rather increased early this morning.

℞ Kali præpar. ʒ ss.
Succi Limonis, ʒ vj. m. et adde
Aquæ fontanæ, ʒ ij.

*Sumat hujus misturæ coch. unum secunda quaque hora.* In the forenoon, the breathing became very short and troublesome; and it was observed that the urinary excretion was very deficient in quantity.

℞ Tinct. Digit. purp. (Phar. Edin.)
Sp. Lavend. comp. ā ʒ iss. m.

*Dentur guttæ octo, ex quolibet vehiculo, secunda tertiave quaque hora. Repetatur Mistura cum Kali*, &c. In the evening the difficulty of breathing increased. *Admoveatur pectori Emplastrum Cantharidis. Rept. Mistura cum Ammoniæ Præpar. gr. xv. loco kali.*

24th. This morning the breathing still more troublesome;

so far from being able to lie down, she cannot bear to lean back in the least, but sits on the bed, which is in a very airy room, rather inclining forward, both night and day; and though her head, when she seems disposed to sleep, was prevented from falling forward, by a strip of linen placed across the forehead, and holden by an assistant behind, yet it is seldom that she can get rest for five seconds without starting awake, apparently from the disturbance in breathing; indeed, the respiration is so quick, that she with difficulty takes and swallows a small tea spoonful at a time, and that in the greatest haste. Little or no urine is voided. As there is considerable dilatation of the pupil of the eyes, and as she is incapable of giving a particular account of her sensations, for fear of exhibiting too large a dose of digitalis, the following diuretic mixture was ordered instead of it:

℞ Ol. Terebinth. gr. xl.
Vitellum Ovi unius; terantur simul, dein adjiæ.
Aq. cinnam. ℥ ij.
Sacch. purif. ʒ ij. m.

*Detur coch. unum secunda quaqua hora.* With a view of relieving the breathing,

℞ Ætheris Vitriol. ʒj.
Aq. font. ℥iij.
Sp. ammon. comp. gr. xl.
Syrupi e succo moror. ℥ j. m.

*Capiat. coch. unum quandocunque spirandi difficultas maxime urget.* On my second visit to-day, finding the symptoms extremely urgent, and nearly the whole of the terebinthinate mixture being taken, a tea spoonful at a time, without producing any sensible effect, I ordered it to be repeated, and to be taken as fast as possible. *Imponatur Empl. Canthar. dorso inter scapulas, et repr. Mistura cum Æthere.* Third visit. Pupils much dilated; cannot distinguish persons in the room, except by their voices; breathing no better; no urine; strangury, or other apparent effect, produced by the means used. *Rep. Mist. Tereb. cui adde Tinct. Canthar.* ʒ *ij.* Continue to get it down as quickly as possible, unless some unpleasant effect should be produced by it. Fourth visit. Continues without alteration. *Rep. Mist. Tereb. cum Tinct. Canthar.* Fifth visit, 9 o'clock in the evening. Has taken all the terebinthinate mixtures, except about two thirds of the last, without effect. For a supply in the night, if she be able to take it, *Rep. Mist. Tereb. cum Tinct. Canth. augendo Ol. Tereb. ad gtt. lx.*

25th. Morning visit. Scarcely any urine voided; nor does the bladder appear to be distended; no strangury; the extremities cold; but there was no anasarcous affection in the feet or ankles, notwithstanding that the extreme difficulty of breathing

ing had continued for several days and nights; this may perhaps be partly accounted for, from their being constantly kept in bed, and not allowed to hang down. Though the digitalis has been discontinued, the pupils remain dilated, with a total loss of sight, which therefore must arise from some other cause. The respiration continues most distressing, so that she is scarcely a moment still. The pulse, when it could be numbered, was generally between 140 and 160, very feeble and fluttering; but as the patient had no fever in this attack, it was not often very minutely attended to. *Rep. Mist. Terebin. cum Tinct. Canth. uti ultima.* Second visit. No amendment. *Rep. Mist. cum. Tinct. Canth. et Ol. Tereb. gtt. lxxx.* Third visit, at 8 P. M. It is now impossible to get down the mixture, which indeed must probably have been given up a day or two ago, but for the particular attention and address of the mistress and her assistants. There now appearing to me nothing more that could be done, nor any prospect of her continuing over the night, I took my leave, desiring, however, to be informed if she should be alive in the morning; but previously recommended the following draught to relieve her suffering, if an opportunity should offer for giving it.

℞ Tinct. Opii gr. xii.
Aquæ font. ʒ ij.
Sacch. purif. ℈ j. m. fiat haustus *quamprimum sumendus.*

26th. This morning I received the joyful summons to repeat my visit. I found she had been a little better in the evening; had taken the opiate draught; made about six ounces of water in the night; her breathing had been, and was much more free; had slept a little; and appeared considerably better. Not having had a stool for several days.

℞ Calom. pt.
Sacch purif. ā gr. vi.
Pulv. Digit. purp. gr. iss. m. ft. pulvis in ch. ij. div.
Capt. i. st.

*Rep. Mist. Tereb. cum Tinct. Canthar. ult. præscript.* Second visit. Continues to improve; urine increased. Continue to take the mixture. Third visit. Is as well as before; has had two stools, therefore, instead of the powder with calomel,

℞ Pulv. Digit. purp. gr. i.
Sacch. purif. gr. ij. m. fiat. Pulv. in ch. ij. div. *Cap. i. vesperi et mane. Mist. Tereb. cum Tinct. Canthar.*

℞ Tinct. Opii gr. x.
Aquæ font. ʒ ij.
Sacch. purif. ℈ j. m. ft. haustus. *Mitte duos tales, quorum detur alter vespertino tempore, et alter media nocte, ni accedat somnus.*

27th. After the latter draught, slept pretty well, and had a comfortable night, being able to lie down. The pupils now are more contracted; and she has recovered her sight. *Rep. Mistura Terebin. cum Tinct. Canthar. ut ultimo præcepta.*

℞ Tinct. Ferri muriati ʒ iss.
Aq. Cinnam. ℥ iij.
Mucil. Arab. gum. ʒ vi. m. *Bibat cochlearia duo ter quotidie.*
*Repetantur bini Haustus Opiati, etiamque Pulveres Digitalis.*

28th. Was so much recovered to-day, as to admit of being removed to the house of a relation on the outside of the town. *Rep. Haustus Opiati et Pulveres.*

29th. Continues to improve. *Rep. Pulveres ex Calom. et Digit. Purp.*

30th. Seems now to be free from complaint.

*Rep. Mist. cum Tinct. Ferri.* A few days after, she was removed into the country to another relation's, a few miles distant, to recover her strength before returning to school.

*Remarks.*—What was the cause of this alarming difficulty of breathing, I do not presume to state with certainty. From a consideration of the preceding disease, the bloated countenance with which it commenced, and the inability to lie down, I incline to the supposition, that there was a serous effusion into the lungs. It was clearly different from the spasmodic asthma. Whether the dilatation of the pupil, and loss of sight, were owing to a similar effusion into the ventricles of the brain, I do not pretend to determine, that is perhaps the readiest way of accounting for it; yet many symptoms, frequently attendant on this affection, were absent, as squinting, aversion from light, stupor, and slow pulse. But as the reader has now, I believe, all the *data* in my possession, from which to decide these points, I willingly leave him to form his own conclusions. I am equally at a loss to determine whether the medicines administered contributed much towards the patient's recovery, such a recovery as I never before saw, in upwards of 30 years' practice. I however think the case of importance, as it shews that in some, even in desperate cases, we ought not, *adhuc spirante homine*, to desert him.

P.S.—If thou hast no objection, I could wish the enclosed letter and case to be handed to the Editors of the Edinburgh Medical and Surgical Journal for insertion, if they approve of it; for, even if thou shouldst think proper, in consequence of my representation, to reconsider the subject, and make some alterations in the next edition of thy work, the readers of the former, who probably may not peruse the subsequent editions, will be more likely to see the defence of my mode of treating the scarlatina, by being inserted in the Journal; besides, I wish to contribute to that useful work, if in my power, more than by merely purchasing it. Thy reply, inserted in it, or by post, will be acceptable, I have no doubt, not supposing that this letter will be received in any other than a friendly manner. I remarked that Dr Willan's work, in which my observations are published, is not referred to in thy strictures, which would have been proper.

J. B.

## III.

## *Observations on the Advantages derived from the Free Administration of Purgatives.* By Charles Morgan, M. B. Dover.

Having been an eye-witness of Dr Hamilton's practice, with which his excellent volume on purgatives so strictly corresponds, I could not avoid being struck with its simplicity and success, and adopting it as my own. The fairness and correctness of Dr Hamilton's statements, joined to his high professional reputation, have had their due influence on the Faculty in the north; and the practice, I believe, daily gains ground among them.

Were this *universally* the case, I should not trouble you with the present paper, but a degree of coldness and scepticism prevails among the practitioners on this side of the island, (arising from too frequent disappointment), which has prevented this, as well as other improvements, from meeting with a favourable reception. Need I quote the almost criminal neglect with which the cold affusion has been received in London, as an instance? It has been objected to me, by more than one respectable practitioner, that, though well adapted to the meridian of Edinburgh, the "purging system" does not suit the constitutions of the south. Of such an objection, my case book would furnish ample refutation; but it is not my wish to load your pages, and I shall confine myself to as narrow limits as possible. Much dissatisfaction may have arisen among practitioners, from the unwillingness of patients to submit to a repetition of purgatives, who all esteem purging a debilitating operation, and think themselves far too "nervous" to undergo it with impunity. Many, too, I believe, are disappointed in their hopes of cure, by stopping short of the wished-for point. Both these evils arise from a neglect on the part of the medical adviser;—I mean, not inspecting the stools. If the practitioner be too much an *emunctæ naris homo* to submit to such drudgery, let him go on, trusting to remedies that have long failed; or rather, let him lay aside altogether the practice of physic. It is only by daily inspection of the stools that the purging can be regulated; for, as long as they exhibit morbid appearances, so long are the purgatives necessary, and no longer. Where the stools are not seen, the patient conceives that he is discharging far more than you are aware of, and more than his constitution can bear. By an earnest inquiry after them, and a strict injunction that the whole may be saved, together with an occasional appeal to the patient, whether such matter can remain in the body with impunity, I have never failed in inducing a cheerful submission to the plan, and the patient at last looks for the repetition of the dose as a sure relief from the misery he is suffering. Having premised these remarks, which arise from the objections of several medical friends, I proceed to the relation of two cases, not picked out as proving more than others, but as exhibiting the obstinacy of the disease, and the ultimate advantage to be derived from a steady perseverance in the plan recommended by Dr Hamilton.

June 23d 1806. S. J. a girl aged 16 years, complains of pains, attacking, in succession, different limbs, attended with œdema, constant pain in the back, and pain shooting through the head, aggravated by motion, and preventing sleep. Nine weeks back, she was affected with severe cough, which subsided on the use of medicine. About three weeks ago, was seized with rigors, followed by heat, and accompanied by the pains and swelling above described. Pulse 120, and feeble; tongue white; countenance leucophlegmatic; belly slow; catamenia have not yet appeared. Attributes her complaints to light clothing and exposure to cold. Has taken several medicines, (sudorifics and aperients), and has had a blister applied to the neck. *Habt. Enema. Domest. statim. Hora 8va p. m.* One very costive stool from the injection. *Habt. opii. gr.* ß. *hora somni; necnon Calomel gr. iij. cum Pulv. Jalap. gr. x.*

℞ Camph. ʒi.
Magnesiæ xij.
Aq. ℥vj. Tere Magn. cum Camp. paulatim addenda. Mistura perfectâ adde
Spt. Æther. Vitriol. comp. ʒjv.
Capiat ℥j. 6tis.

24th. Pulse frequent; tongue dry and white; a better night;

one stool previous to the pills being taken ; none since. *Capiat Inf. Sennæ. ℥iß. statim, et ℥ß. omni semi hora donec, &c.*

℞ Fol. Menthae ʒvj.
Conservæ Rosarum ℥j.
Aquæ Fervent. ℔ß. Fiat infusio, cui adde
Acid. Vitriol. dilut. ʒiß. Capiat. ℥ij. cum
Tinct. Cinchonæ ʒi. et Tinct. Op. gtt. vij. 6tis.

25th. Pain of head and back abated ; complains of pain in the left side, shooting backwards to the shoulders, and aggravated by a short cough ; pulse 120 ; skin dry and hot ; tongue dry. *Appl. Empl. Canth. lateri.*

℞ Cal. gr. iv.
Jalap gr. x. Capiat hor. somni, et si opus sit,
Inf. sennæ cras mane ut antea.

26th. After two exhibitions of the senna, two stools have been obtained, evacuation partly formed, partly feculent, clay coloured, and highly fetid ; pain of the side shifted towards the axilla ; cough, without expectoration, at intervals ; heat somewhat abated ; pulse 108 ; tongue dry. *Habt. Pil. Aloet. Pharm. Edin. iij. omni trihorio. Haust. Kali. Citrat. 6tis.*

28th. Twelve pills taken, and yesterday evening an ounce of infusion of senna ; alvine evacuation, at several motions, copious, scybalous, high-coloured, and very offensive ; pulse 116 ; skin rather warm ; tongue cleaner ; a bad night ; cough gone. *Habt. Opii. gr. j. h. s. Habeat quoque Pil. Aloet. xvi. Capiat ut antea. Cont. Haust. Kali.*

30th. Pills taken ; they have produced several stools, the last fluid, but containing much feculent matter ; complains of tenesmus and gripes. *Interm. Medicam.*

July 1st. One formed stool since the pills have ceased operating ; pulse 104 ; skin warm ; tongue moist ; countenance improved ; gripes and tenesmus gone. *Repetant. Pil. Aloet. additis singulis dosibus, Zingib. gr. v.*

℞ Inf. Chamom. ℥viij.
Myrrh. ℈ij.
Tinct. Ferr. Muriat gtt. lx. Sumat ℥ij. 6tis.

2d. Pills have produced a copious evacuation of feces, such as last described ; complains of tenesmus and gripes ; countenance improves ; pulse 116 ; tongue and skin as last described. *Habt. cras mane Pulv. Jalap. Comp. Ph. Ed. ℈ij. Cont. Mistura.*

5th. In consequence of a frequent discharge of fluid feces, the powder was not given till this morning. The exhibition was followed by several discharges of extremely *hard scybalous feces*, of a very offensive smell. Countenance and strength improve ; but frequency of pulse, and heat of surface continue as described.

She is free from pain of every sort, and complains only of langour; appetite good. *Repetat. Pulvis cras mane; et cont. mistura.*

7th. Powder not given till this morning; alvine evacuation scanty, but of appearance last described; pulse 120; skin hot; tongue rather dry; no cough; sputum, or pain of side; countenance improved; for these three last mornings has perspired copiously. *Habt. sera nocte Cal. gr. iv. Jalap. gr. xij. et cras si opus Inf. Sennæ ut antea. Cont. mistura.*

8th. Alvine evacuation more copious, scybalous, and fetid, than hitherto; pulse 116 and soft; tongue cleaner and skin cooler; complains of slight uneasiness on lying on the left side; appetite good; good night's rest; no perspiration this morning. *Rep. Calomel et Jalap, hora somni et cont. mistura.*

9th. Alvine evacuation lumpy and fetid, as yet not copious; pulse 108 and soft; tongue cleaner; skin rather warm. The pain of side shifts occasionally, and is now described as moving in the direction of the colon; no morning sweat. *Habt. Cal. gr. iij. ter die. Cont. mistura.*

12th. The calomel not passing off, some infusion of senna was given. Imprudent exposure to fatigue has caused a fresh swelling of the feet and legs; pulse frequent; skin warm; tongue clean. The pain is now said to be fixed in her side, and the spot may be covered by an half-crown piece; it is not acute; belly slow; appetite and sleep natural. *Habt. Calomel et Jalap. ut antea.*

℞ Decoct. Cinch. ℥viij.
Tinct. Cinch. ʒjv.
Tinct. Ferri muriat gtt. lx.
Syrup Cort. Aurant ℥jv. sumat. ℥ij. 6tis.

13th. Copious alvine evacuation, lumpy and offensive; pulse 120, and skin warm; pain of side more severe, and affects the breathing. *Rep. Calomel et Jalap. Imponatur Empl. Canth. lateri dolenti. Omitt. mistura.*

14th. Alvine evacuation as yet scanty, but scybalous; pain of side relieved, although last night it was violent, and the breathing much affected; pulse frequent; cough trifling. *Habeat Pulv. Scammon.. cum Calomelane, gr. v. ter die.*

15th. ℞ Mucilag. Gum. Arab.
Aquæ distill. āā. ℥iij.
Tinct. Digitalis gtt. lx. Sumat ℥j. ter in dies.

18th. Digitalis produced slight sickness; pulse, tongue, and skin as before; powders, by account, have operated well. *Repr. Mist. sed minori quantitate. Cont. pulv.*

23d. Medicines have been taken very irregularly; stools still continue lumpy, but otherwise more natural than hitherto; pulse towards 100; skin cooler; strength and countenance much improved; appetite and rest natural; no return of pain in the side. She is going into the country. *Habeat Pulv. Jalap. Comp. Pharm. Edin. ʒix. Divide in Pulv. xviij; una pro re nata sumenda.* This girl soon returned quite well, though the catamenia never appeared. In this case, as in many others, tonics were rendered necessary, in compliance with the wish of the patient's friends; on that account, too, the second blister was applied.

### CASE 2d.—*4th August* 1806.

Mrs L. aged 24, complains of dyspepsia and uneasiness about the scrobiculus cordis, and violent pain across the forehead. Several times in the day she is seized with a sense of something moving in her belly, which rises in her throat, and produces a choaking sensation, attended with palpitation of the heart, and anxious restlessness, which prevents her from remaining still. During the intervals, she is drowsy, melancholic, and desponding. Complaints of eight months duration, and began after a labour, attended with mania, since which, the catamenia have appeared but once; tongue rather foul; pulse 108, and slightly feeble; belly slow; appetite tolerable, but the dread of dyspepsia prevents her indulging it. *Habeat. Cal. gr. v. Jalap. gr. xij. et post horas tres, Infus. Sennæ ℥iß. Natri. Tart. ʒjv.*

*Hora 8va p. m.* Alvine evacuation copious and feculent. *Habt. Pil. Aloet. Ph. Ed. xvj. Sumat iv. tertia quaq. hora incipiens cras.*

5th. Alvine evacuation scanty and lumpy; all the pills taken. *Habt. Pil. Aloet xxiv. Sumat iv. tertiis; et, pilulis sumptis, Inf. Sennæ ℥iij. Natr. Tart. ℥j.*

6th. Ten pills, and one half the infusion taken. Alvine evacuation, at several motions, copious, scybalous, high coloured, and very offensive. *Sumat quod reliquum est pilularum, et dein Infus. Sennæ.*

7th. Pills and infusion taken; alvine evacuation as last described; complains much to-day of depression, restlessness and globus. *Contr. Pil. ut antea. Habt. Misturam Camph. cum Magnes. ut in historia prima præscripta est, cum Tinct. Opii. gtt. c. Capiat ℥ß pro re nata.*

8th. Alvine evacuation scanty, and as last described. *Habt. nocte Cal. gr. vj. Jalap. gr. xv.*

9th. Alvine evacuation more abundant; a better night, but otherwise not materially relieved; tongue rather dry; pulse frequent. *Repr. Pil. Aloet. ut antea.*

10th. Scanty alvine evacuation; very offensive, and as before; slept well through the night; ten pills taken. *Habt. cras mane Pulv. Jalap. comp. Ph. Ed. ʒj.*

11th. Several stools; lumpy, but of more natural appearance;

a good night. *Repr. Pulv. cras. Habeat. Inf. Chamom. ℥viij. Tinct. Ferri Muriat. gtt. lx. Myrrh. ℈ij. Sumat ℥ij. ter in dies. Sumat Pulv. e Magn. gr. x. Zingib. Rhab. āā. gr. v. paulo ante prandium.*

12th. No stool to-day. *Habt. Cal. gr. vj. Jalap. gr. xv. nocte.*

13th. Alvine evacuation more copious, but of the usual appearance; bad nights for these two last. *Habt. Pil. Op. gr. v. o. n. Habt. Pil. Aloet. iv. tertiis. Contr. Mistura et Pulvis.*

14th. Pills not taken this morning; opium gave a good night's rest, from which she arose with good spirits, which have continued through the morning; for the first time, she expresses a desire to go out; is to begin taking the pills directly. *Con. Cætera.*

15th. Spirits continue good, and she is free of complaint; no stool; has taken 16 pills. *Habt. Ol. Ricini. ʒvj stat. Cont. Mistura et Pulvis.*

17th. One very lumpy stool yesterday evening, but of more natural colour and smell; draught taken this morning; from over exertion yesterday she feels languid, but is otherwise cheerful. *Habt. Cal. gr. v. Jal. gr. xv. nocte; Cont. alia.*

18th. Several lumpy dark coloured stools, followed the exhibition of the draught; calomel not taken; complains of headach and vertigo. *Capt. Mistura dos. dimid. Capt. Cal. et Jalap ut heri præscript. Op gr. ß h. s.*

19th. Alvine evacuation lumpy, fetid, and abundant. *Cont. Mist. et rept. Pil. Aloet. ut antea.*

21st. Alvine evacuation as before; no return of globus or of dyspepsia; headach occasionally troublesome; and she is subject to fits of flushing and heat. *Cont. medicam.*

22d. A scanty and rather costive stool. *Habt. Cal. gr. v. Jalap gr. xv. Omitt. alia.*

23d. Headach, &c. relieved; copious alvine evacuation, of more natural appearance.

25th. Yesterday her low spirits and hysteric symptoms recurred, in consequence of mental agitation, with considerable violence; she took one grain of opium, and four aloetic pills last night, and four more this morning; she has to-day recovered her spirits, but complains of langour and headach; no stool. *Habt. Cal. gr. vj. Jalap. gr. xv. Statim Habt. Decoct. Cinch. ℥ij. Syr. Cort. Aurant. ʒi. Tinct. Ferri Muriat. gtt. vij. 6tis.*

26th. Alvine evacuation copious, but still high coloured and offensive.

℞ Magn. ʒiss.
Rhab. ʒss.
Tinct. Card. C. ʒjv.
Aq. Menthae ℥vj. Sumat ℥ij. ter die.

29th. Alvine evacuation scanty and rather lumpy; general health improved. *Capt. Pil. Aloet. ut antea.*

Sept. 1st. 20 Pills taken; alvine evacuation yesterday copious; and, by account, of appearance last described. *Habt. Calom. gr. v. Jalap. gr. xv. stat.*

2d. No return of complaints; general health improved; alvine evacuation lumpy, feculent, and in part scybalous, but not so offensive as before.

3d. Alvine evacuation more natural. *Habt. Pulv. Jalap. comp.* ʒß. *omni mane.*

8th. Is free of complaint, except that her belly is still slow, and feces somewhat lumpy; is to go into the country and continue her purgatives.

Since the recovery of her health, this poor woman, by indulgence in too full a diet and spirits, and from accidental exposure to cold, has been seized with fever, attended with great alienation of mind. Her delirium, however, was furious, and by no means resembled the low spirits and absurd fancies exhibited in her former complaints. She is now well; but from her uncontroulable passions, temperament, and disposition to improper indulgence, will most probably become permanently a maniac. The case appears to me curious, as exhibiting, in a strong point of view, the connexion between hysteria and hypochondriasis. Whether the tendency to fulness of the vessels of the head, depended upon the obstruction of the bowels, or *vice versa*, I cannot determine. The reciprocal influence of the diseases of the brain, and chylopoetic viscera, as pointed out by Mr Abernethy, cannot be overlooked in the present case; and as mental derangement, both preceded and followed the obstruction, although excited by accidental causes, it is most probable, that the seat of the primary disease was in the brain.

*Dover, 8th Nov.* 1806.

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## IV.

## *Some Account of the Baths of Leuk in the Valais.* By HENRY REEVE, M. D. F. L. S.

THE baths of *Leuk* or *Louësche* are the most celebrated places of resort in Switzerland, not for the sake of the company and accomodations, but for the salutary properties supposed to be inherent in the waters. The situation of the springs is very remarkable, at a height of five thousand feet above the level of the sea, in a narrow plain, amidst lofty mountains. There are only two ways of getting to these baths, one by passing over the chain of mountains called the Gemmi, which separate the canton of Bern from the Valais, the other by ascending from the side of the Valais, or from the valley of the Rhone, through the small towns *Sierre* and *Leuk*. Both these roads are steep and difficult; no wheeled carriage can pass along either of them, so that persons who are unable to ride on mules or horses, are carried by men, in a sort of sedan-chair. Nothing can exceed the grand and sublime scenery displayed in each of these curious and interesting routes; rocks, mountains, woods, cataracts, precipices, and pastures, are scattered around with boundless variety and profusion.

The ingenuity of art has attempted to rival the wonders of nature, for the road is in many places hewed out of the solid rock; and, by means of a gallery, as it is called, or flight of steps, a path has been made for horses and men, where it seemed impossible for any thing but a goat or chamois to pass. The climate of this mountainous region is highly ungenial, only a little corn and hay are grown on patches of soil at the foot of the rocks; and although the plain is open towards the south, the mornings and evenings are cold; sometimes snow falls even in the month of July, and it generally rains every day, whilst the sunshine is seen in the valley below. Invalids of fashion and opulence would find none of the luxurious comforts furnished at Bath and Buxton. One poor miserable inn, and a few peasants' huts, now make up the only habitations at this spot. Formerly, the principal spring was surrounded by handsome buildings, but these were destroyed by an *avalanche* in 1719, and again in 1758, which prevents any individual from risking his property in building new houses. The present inn is close to the baths, and it affords one room to each individual who comes to take the waters; and there is a large dining-room in common, where all the company dine and sup together, and the inn-keeper furnishes the table at five French livres per head. This *maître d'hotel* only resides here during the summer, from May to September.

Within a circuit of a mile and half, there are ten or twelve springs, most of which fall into the river Dala. The spring which supplies the bathing-house is adjoining to it, and is a very considerable one. The temperature of this is the highest, and it raises the thermometer to 125° Fahrenheit's scale; the lowest temperature of the other springs is about 115°. The water is always admitted into the baths several hours before the bathers can endure them; they use it at 97°; and, what is curious, they remain exposed to such a high temperature for four and five hours together, and for eight or ten hours in the course of the day.

The manner of bathing is as follows: each person, at first coming, remains in the bath half an hour, or an hour; he prolongs his bathing-time every day, till he reaches the maximum, which is to go into the bath at four o'clock in the morning, and stay till nine or ten, then come out and dine *en société* at eleven, go into the bath again at two o'clock in the afternoon, and remain until four or five in the evening. The time of bathing is gradually abridged, in the same way as it was prolonged, before the cure is thought to be complete.

Our curiosity naturally tempts us to inquire, whether the invalids do not suffer some inconvenience from this rigid discipline; but I could not learn from any of them that they felt themselves weak or languid on coming out of the bath. I was told by several bathers, that their sleep was unusually disturbed, which is an effect commonly attributed to their bathing for so many hours; and after the first few days, a papulous eruption breaks out upon the skin. I saw two instances of this. The papulæ rise sensibly above the level of the cuticle, are of a red colour, and distinct from each other; they vary in number, and extent, and duration, in different cases, though they make their appearance in all. This eruption seems produced by the strong determination of blood to the surface, from long exposure to such a warm medium. It commonly terminates in scurf, and, by continued use of the baths, disappears gradually; but if bathing be suddenly left off, whilst the eruption is on the skin, the papulæ remain for a long time, without any alteration. The bathers who frequent this place, to get rid of their bad humours, think this eruption an evident proof of the efficacy of the waters. Men, women, and children, all bathe in the same bath together. The bathing-house is a shed built of wood, covered over with tiles, with four square divisions in the floor, large enough to hold about twenty persons; they are open above; and though no particular places are allotted, yet one is called the gentlemen's bath, another the strangers' bath, a third, the bath for the Germans, and the fourth for the Swiss. It is quite a comic scene to look at such a variety of characters, sitting up to their chins in warm water, whilst the vapour is playing around their heads, some reading, some chatting, some playing at draughts or cards, some working, some eating their breakfasts upon small floating tables, some drinking the water from the cock in each bath, every half hour, and all most anxiously watching the escape of the *bad* and *acrimonious humours!*

Cutaneous disorders, chronic rheumatism, gouty and dyspeptic complaints, and that tribe of complicated symptoms brought on by residence in a hot climate, are what receive most benefit from drinking and bathing in these waters. I cannot pretend to give an accurate account of them, as I was not provided with any chemical test, when I visited the springs (in September 1805), and bringing away a small quantity, seemed rather calculated to give erroneous conclusions. The sensible properties are the following: The water taken from the principal source appears clear and colourless, on standing it becomes slightly turbid, and a small quantity of reddish brown ochre is precipitated,—it gives out a faint smell of sulphur, and is strongly chalybeate to the taste. The temperature is such, as to make it painful to keep the hand long in the spring; yet it may be drank immediately from the source, without inconvenience, and insects and plants live in it. In some smaller springs the temperature is lower, and here I saw several poor peasants sitting naked, sweating profusely, for rheumatic pains. According to the analysis given by *Morell*, an ingenious apothecary and chemist at Bern, who published a chemical history of the mineral waters of Switzerland several years ago, the waters at Leuk contain muriat of soda, with a little sulphat of magnesia, sulphat of lime, carbonat of lime, carbonat of magnesia, and oxyd of iron, also a small quantity of disengaged carbonic acid and hydrogen gas. The precise quantity of all the ingredients I will not state, because they appear inaccurately expressed in Morell's book, which consists of experiments made before analytical inquiries of this nature were conducted with the requisite nicety and attention to minutiæ. The proportion of oxyd of iron is not inconsiderable, if any judgment may be formed from the strong chalybeate taste when the water is drank, both cold and hot, and especially from the quantity of ferruginous matter deposited on the edges of the springs. Within two hundred steps of the baths, a spring of very cold pure water flows; but it is only in any considerable quantity from the month of May to October, hence it may be supposed to arise from some neighbouring glacier.

After long continued rain, the water becomes turbid in all the mineral springs. One of them is said to excite vomiting, if taken into the stomach; it is called by the common people *Katz gulle;* but there is no evidence of any peculiar properties belonging to the water of this spring, which might lead to a satisfactory explanation of the quality attributed to it. A physician usually resides at Leuk, during the bathing season; he seemed to have a very high notion of the anti-humoral efficacy of the waters, and he laid great stress upon the diet and regimen necessary to be observed during the cure. These baths have long been known and frequented by invalids, for I observed some regulations hanging up in the bath-house, dated *Sion*, 1600, prohibiting indecent conversation, swearing, ridicule of the catholic faith, &c. under the penalty of several pence fine. The mountains in the neighbourhood of the baths are composed of lime-stone, resting upon argillaceous and calcareous schistus. Evident marks of violent convulsions are to be seen in every part of the valley, and along the river Dala, which runs to join the Rhone.

To the botanist, these alpine regions afford an abundant harvest of interesting research and discovery: The following list of plants, which grow in the neighbourhood of the baths at Leuk, is given by the learned translator of *Dr Ebel's* very accurate and useful book of instructions for travellers in Switzerland, the second edition of which was published, with additions and improvements, in four volumes 8vo. about two years ago, and has been translated from the original German into French, under the title of "*Manuel du Voyageur en Suisse*." I am indebted to this work for several facts stated in the above account of the baths; and, as far as I was able to judge, by comparing the author's statement, with the different objects of inquiry, on the spot, I have every reason to be satisfied as to his correctness and accuracy. Plants found in the environs of the baths are: *Veronica fructiculosa*. *Veronica Teucrium*. *Galium hybridum*. *Galium boreale*. *Phyteuma ovata*, Willd.—*Ribes Alpinum*. *Linum Narbonense*. *Thesium Alpinum*. *Anthericum liliastrum*. *Rosa villosa*. *Pedicularis comosa*. *Hedysarum onobrychis* grows wild here; it is cultivated on plains. *Gnaphalium luteo-album*. *Tussilago Alpina*, near the glacier, and upon all the heights. *Senecio viscosus*. *Hieracium grandiflorum*, All. *Epilobium Dodonæi*, Vill. *Pinus cembra*. *Coronilla glauca*, this plant, peculiar to the *Valais*, grows no where but along the road from *Varonne* to the baths. *Imperatoria Ostruthium*, grows about a league off the village, on the north side, near a path leading to the Alps, among decomposed calcareous schistus. In this spot I found (says the translator), a magnificent *Angelica*, between eight and ten feet high, in full flower, towards the end of July. The beautiful *yellow Gentian* grows in great abundance in the wood, between the baths and the gallery, on the way to Sierre. It is found in flower about the end of the month of June. *Potentilla caulescens* upon the rocks between *Inden* and *Salges*. *Micropus erectus*. *Euphrasia viscosa* to be found in the wood before coming to Salges. This plant grows no where else in Switzerland, it exhales an odour like that of a golden pippin.

*Norwich*, 2d *Jan*. 1807.

# V.

## *Case of Small-Pox occurring in the Fœtus.* By JAMES LAIRD, M.D. Physician to the Cary-Street, Dispensary.

BY the repeated solicitations of a warm friend to your Journal, I am induced to request your insertion of the following statement of a case which occurred to me some time ago. It has no claim to novelty, since several instances of small-pox in the fœtus are already on record, but is offered as a recent and authentic document respecting this point.

Hannah Howard, aged 26, became the subject of the natural small-pox, during the period of her second pregnancy; in which, according to her reckoning, she was advanced as far as the middle of the fifth month. She was attacked on Wednesday the 28th of August 1805, the eruption appeared on the 30th, and on Monday, the 2d of September, she came under my care, as a patient of the General Dispensary in Aldersgate Steet, at which institution I was officiating for my friend Dr Yelloly. As the disorder advanced, the pustules on the face and lower part of both arms coalesced, and might be said to form but one extensive crust. On the trunk and lower extremities they were perfectly distinct, fully elevated, and surrounded with the bright red margin of the inflammatory small-pox, which character the disease uniformly preserved throughout its course. The treatment was as simple as the circumstances of the case permitted ; it consisted in keeping the bowels regularly open, and in the employment of free ventilation, acidulated drinks, and opium at night. During the disease, and for about ten days after the entire separation of the scabs, when she was completely convalescent, and had walked out two or three times, she distinctly felt the motion of the child ; but from that period, the early part of October, she no longer perceived it; and on the 28th of the same month she was delivered of a fœtus, which, from its size, was thought to be about six months old, and which had evidently been dead for some days. On its back, shoulders, and side, and particularly about the upper part of the thighs, where the integuments were perfectly sound, there were several pustular elevations, with central depressions, strikingly characteristic of the appearances which distinguish small-pox. The fœtus was placed in the museum of Guy's Hospital, and still distinctly exhibits the characters of the eruption.

The history just related confirms a generally observed phenomenon, that the fœtus participates in many of the diseases of its parent; but, as yet, we are so little acquainted with the nature of that connexion which subsists between the fœtal and maternal systems, that any speculations on so intricate a subject are not likely to lead to very important conclusions. Anatomy instructs us, that there is no direct vascular communication; and the presence of absorbents in the umbilical cord has not been demonstrated. We must, therefore, adopt that hypothesis, which attributes to the orifices of the umbilical vein the power of performing the function of absorption; or, consistently with the true spirit of philosophy confess, that at present we still remain in ignorance of one of the most interesting processes in the economy of animals. It is difficult to determine, at what period of utero-gestation the embryo becomes liable to suffer from diseased action in the parent. From what has been observed, with respect to the effects of the syphilitic virus, we are at liberty to conclude that this susceptibility is very early established. On the present occasion, the life of the fœtus was destroyed before its organs had obtained that degree of evolution which fits them for supporting it in a separate state of existence.

It may be necessary for me to say something, in excuse for the immethodical form of my communication. No daily reports were made, nor did I, till the case was concluded, commit the prominent circumstances to paper. I might, indeed, with little risk of error, have made it assume a more detailed and regular shape, but I preferred leaving it very nearly in its original condition; and I trust, that the want of stated dates will not be considered as diminishing the fidelity of this brief record of facts, written for a private purpose, and not designed to meet the public eye. The commencement of the complaint, and the time of the miscarriage, are fixed and ascertained periods; but the intermediate events were set down, shortly after their occurrence, from memory. I did not find it necessary to make any alteration in this recollected statement, in consequence of the account given me by the patient herself; a very satisfactory test, to which the favourable result of the case enabled me to have recourse.

I avail myself of this opportunity to advert to another fact in the history of small-pox. The agitation of the vaccine question has, I think, clearly ascertained that one of our medical dogmas admits of some limitation. It has been proved that the same individual may be twice susceptible of the specific operation of the variolous poison. I conceive the following to be a case in point. During the course of last summer, one of my patients at the Public Dispensary, a boy 13 years of age, had the natural small-pox very severely. It was regular in its progress and duration; and yet, when a year old, he had slept in the same bed with his grandmother, while she laboured under this disease, which proved fatal to her, and at that period he was the subject of an eruption, accompanied with fever, considered not only by his but by a respectable surgeon who attended him, to be genuine friends, small-pox.

*London, January,* 1807.

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## VI.

### *Observations on the Cow-Pox.* By JOHN BURNS, Teacher of Midwifery, Glasgow.

FEW subjects have, of late years, given rise to more discussion and controversy than the cow-pox; one party consider the security afforded by the vaccine inoculation as very uncertain, whilst another, with equal pertinacity, maintain, that it is impossible for the variolous action to be excited after the cow-pox. The advocates for the latter opinion conceive, that all the instances of supposed failure may be explained, on the principle of the cow-pox having been spurious, or the subsequent disease chicken-pox instead of small-pox.

Several well authenticated instances, however, are on record, where the subsequent disease had all the characters of variola, whilst the vaccination was admitted to be regular and complete. I shall add another case to those which we already possess.

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A girl who lives in a neighbouring village was, in June 1803, inoculated with recent vaccine matter, and went through the disease regularly. The vesicle was well defined, of a cellular structure, flattened at the top, and turgid or prominent at the margins. It had the white or pearl colour of the vaccine vesicle, contained a pure lymph, was surrounded at the usual time with the areola, terminated in a scab, and left a permanent scar. Some weeks afterwards, she was inoculated with variolous matter, but the scratch did not inflame. Very lately she complained of headach, sickness, vomiting, and feverish symptoms; and on the evening of the third day of the illness, an eruption began to appear, and next day, a great number of small red pimples covered the face, trunk, and extremities. The fever now declined. The pimples were of a globular shape, or prominent and hard to the feel; they gradually enlarged a little, and became surrounded with a red margin. The suppurating process went on regularly, and this was followed by the drying or blackening of the pustules, which began on the 9th day of the eruption. The scabs fell off rather sooner than happens in general in the natural small-pox, but left red blains, which were very distinct on the 21st day of the eruption; after which I did not see the patient.

The chicken-pox did not prevail or exist, so far as I can learn, in the village, but the small-pox were epidemic, and proved fatal to several children, one of whom was reported to have had the cow-pox; but I could not learn the exact progress of the vaccine vesicle.

Other two younger children, who had also been vaccinated, remained all the time in the house, but were not affected. I also inoculated several children, (who had formerly undergone vaccination), with matter from this patient; but although the arms inflamed, yet the progress of the pustule was soon checked, and the inflammation died away; as I had an opportunity of seeing the patient in both diseases, I have no hesitation in saying, that she, to all appearance, went regularly through the cow-pox; and afterwards, at the lapse of three years and a half, had the small-pox very mildly.

As this is not by any means a solitary case, it comes to be an important question, how we are to ascertain the security of every individual who is vaccinated? It may perhaps be answered, by saying, that this may be done, by observing that the local disease follows the usual and regular process. But the present case, and others noticed by different practitioners, will shew, that the local appearance is not a sure criterion.

It may be supposed, that a positive mark of security may be drawn from observing that the system is disordered, during some part of the period of vaccination. But the constitutional disorder or affection may be so slight, as to be almost imperceptible; nay, Dr Jenner says, we have security where it cannot possibly be discovered.

We have, then, no method of judging with certainty, except by experiment, I mean by re-inoculation. By inoculating the patient a second time, on the 6th or 7th day after the first, we may, from the progress of the second vesicle, judge pretty correctly of the state of the system. This has been pointed out by Mr Bryce.

A still more certain test is derived from inoculating the patient with variolous or vaccine matter, a fortnight, or at any latter period, after the first inoculation. If vaccine matter be employed,

ployed, a vesicle will form, or an irregular pustule will appear, but it will not increase beyond the 6th day; after that time it will die away, and in a day or two will be quite gone. If the variolous matter be employed, which ought to be a still more severe test, the arm will inflame as usual; but after the 5th or 6th day the pustule will decline, and by the 7th or 8th it will have either disappeared, or have greatly faded. No fever takes place.

I have not mentioned this case with a wish to lessen the confidence to be placed in vaccination, but rather to urge the necessity of re-inoculation, which alone can certainly ascertain the security of every individual, and procure to the public the full benefit which may be derived from the cow-pox. The trouble attending this practice is very little, the pain is not to be mentioned, the security, so far as facts enable us at present to judge, is complete, and without this, or some similar test, we cannot rely with absolute confidence on the vaccine inoculation, as a preventive of the small-pox.

*Glasgow,* 22*d Jan.* 1807.

## VII.

## *On the common Cause of the Puriform Ophthalmia of Newborn Children.* By Benjamin Gibson, Esq. Surgeon to the Manchester Infirmary.

The prevention of any complaint, which endangers so valuable an organ as the eye, may be considered a matter of general importance; and it will give me great pleasure, if, by the following short statement, I am instrumental in curtailing the frequency of so serious a disease as the puriform ophthalmia of newborn children, a disease which is occasionally most rapid and and irresistible in its progress, and in its effects most destructive to the organ of vision. It appears to me very probable, however, that those practitioners who have had opportunities of attending to the puriform ophthalmia, are already acquainted with its common cause, and use the preventive means which its nature plainly points out, although they have not made their observations public; I am induced to form this conjecture, from the manner in which the cause of this disease first attracted my attention.

It will be unnecessary for me to enlarge upon the symptoms and termination of the disease in question, as I could only repeat the very accurate description given to us by Ware, Edmondston, and Scarpa, I shall only briefly observe, that it attacks infants generally a few days after birth—is characterized by more or less vehement inflammation, and considerable tumefaction of the eyelids, attended with a yellow discharge resembling purulent matter. In a violent attack of this disease, one or both eyes are occasionally irreparably injured in a few days. Suppuration of the eyeball; an incurable opacity of the cornea; or the formation of the unsightly projection of the eye, called staphyloma, are amongst its more serious terminations. It unfortunately happens, in this species of ophthalmia, that surgical aid is not early applied for; hence the disease is allowed to run through its course, until it has arrived at its highest pitch, and done all possible mischief, whilst possibly no application has been used, except a little milk and water, the child's urine, or a similar collyrium, produced by the midwife or some of the good women in attendance; at other times, however, the violence and rapidity of the disease, although treated ever so judiciously, from its commencement baffle all endeavours to save so important an organ.

As far as my reading has gone, the cause of this disease has not been satisfactorily explained. Mr Ware is silent upon this point, as well as many other authors, who have written upon the diseases of the eye. Dr Edmondston, in his valuable treatise on ophthalmia, is of opinion, that it is connected with a loaded and oppressed state of the bowels. Such a state undoubtedly attends this complaint not unfrequently, and, when it occurs, has always appeared to me to aggravate the symptoms; it is most probable, however, that the usual cause of this disease is furnished by a neighbouring organ. The following circumstance suggested it to me: I was consulted sometime ago in the case of Mr C's child, who had lost both eyes from an attack of this disease. After some days' attendance, Mrs C. called my attention to a complaint which existed previous to her marriage, and had continued during her pregnancy to the present time,—this complaint was fluor albus. The coincidence of a similar discharge in the two cases attracted my attention, and it occurred to me, that the eyes of a child, during their passage through a vagina where such a discharge was secreting, might receive the disease in question by contact between the fluid and the eyelids. Since that period, I have been as particular in my inquiries, as the delicate nature of the case will allow, respecting the state of the mother's organs at the period of delivery, where the child has been affected with puriform ophthalmia, and have found, with little exception, that fluor albus existed. In the course of the last year, I met with thirty-five examples in my private practice at the Manchester infirmary, in which this was the case. In a few other instances, where complete blindness had taken place before I saw the patient, I did not think it proper to push the investigation so as to ascertain the point; for although I have always made the inquiry, respecting the presence of fluor albus, in an indirect manner, lest the patient should suspect that I considered her the cause of her child's misfortune, yet on more than one occasion that inference has been drawn. I may observe, however, that the general appearance and constitution of the subject have seldom left any doubt in my mind of the existence of fluor albus. Although from the frequent coincidence of fluor albus in the mother and the puriform ophthalmia in the child, I think it highly probable that these diseases stand in the relation of cause and effect to each other, I would by no means be understood to suppose, that fluor albus is the only cause of a puriform discharge from the eyes of an infant; nor do I imagine that the eyes of every child, which passes through a vagina affected with fluor albus, must necessarily be attacked with puriform ophthalmia, I merely think that such an affection may be apprehended; and if this view of the matter be correct, it leads to the following important points in practice: 1st, To remove, if possible, the disease in the mother during pregnancy. 2dly, If this cannot be accomplished, to remove, artificially, as much of the discharge as possible from the vagina, at the time of delivery. 3dly, To pay, at all events, particular attention to the eyes of the child, by washing them, immediately after delivery, with a liquid calculated to remove the offending matter, or to prevent its noxious effects.

## VIII.

## *Letter to Professor Loder of Jena, regarding the Operation of Spurious Aneurism*[*]. By Professor SCARPA of Pavia.

ALTHOUGH there is so great a number of observations of the success attending the tying of the arterial trunk of the arm and thigh, in the case of spurious aneurism, arising from a wound of

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[*] See Loder's Journal, für die Chirurgie, &c. Dritten Bandes, erstes Stuck, 8vo. Jena, 1800. p. 1.

of these arteries, as completely to remove any doubt of the propriety and advantage of the operation; and although, at present, no surgeon who is versed in anatomy, or skilled in practice, will be found, who, in such a case would propose the removal of the limb, yet I cannot refrain from communicating to you three cases of this nature, which have occurred to me within these few years; that if, at least in relation to the circumstances which accompanied them, they should seem to you to merit a place in the annals of surgery, you may make them known in your Journal. I am, &c. SCARPA.

## CASE 1.

*Aneurism, caused by Effusion of Blood from the Femoral Artery.*—A stout countryman, 25 years old, of a good habit of body, in boring a hole with the point of a knife through a thin board, which he was supporting on the inner side of his left thigh, had the misfortune to wound the femoral artery, by the knife being pressed incautiously, with too much force, and passing through the board so quickly and violently, as to sink deep into the thigh, a little below the middle, in a slanting direction, from above downwards. The blood immediately rushed out in considerable quantity, and in the form of an arch, but was soon repressed by the application of a thick compress, and a pretty tight circular bandage. The following day he was brought, from a distance of eight miles in the country, into the hospital of this place.

As the surgeon of the ward into which he was brought dreaded a recurrence of hemorrhage, he did not remove the dressings until eight days after the accident, and he then found the wound completely closed and cicatrized. The patient got up and walked about a little. On the following day, the surgeon observed that the scar was elevated into a tumour, about the size of a small nut, and that it had a pulsation like that of an artery. Towards evening the patient was a little feverish. On the tenth day from the removal of the first dressing, and on the eighteenth after meeting with the accident, the whole of the left lower extremity, from the foot to the groin, was œdematous; the fever had increased; his strength was much sunk; and the swelling was augmented to the size of two thick clenched fists.

On being informed of these circumstances, I had the patient conveyed into the clinical surgical institute; and undertook, without delay, in presence of several students, the tying of the femoral artery, above and below the place where it was wounded. This took place the 22d October 1794.

After the patient was brought to the edge of the bed, and laid on his left side, with the knee half bent, I made the femoral artery be compressed by an assistant, at the place where it passes under the crural arch; which was easily done, by means of a thick round button fixed to the end of a wooden seal-stick. I now opened the swelling longitudinally, with a convex edged bistoury, making an incision about ten inches long, from above downwards, through which an immense quantity of clotted blood issued, so as to fill a moderate sized kitchen pot. After clearing out the capacious cavity with a sponge, I perceived at the bottom of it the femoral artery bare; and the place where it had been wounded was seen quite distinctly, without it being necessary to diminish the pressure at the crural arch. The wound in the artery was somewhat more than three lines in size, running across, about the distance of four full fingerbreadths above the place where the artery passes the long head of the adductor muscle to get into the ham. As I could see the wound of the artery, I passed a probe through it into the canal of the vessel, and pushed it upwards about two inches; with it raised up the artery, in such a manner as to allow me to pass under it the common needle, with a double ligature of waxed thread; I then turned the probe round, and pushed it downwards in the artery; raised it below the wound in the same way, and surrounded it likewise with a double waxed ligature. I then secured the artery by the two ligatures which lay nearest the wound, and only drew the other two reserve-knots loosely round the artery, at the distance of an inch above and below the wound. I laid a small compress of linen between the ligatures and the artery. On the pressure at the crural arch being removed, not a single drop of blood flowed from the tied artery. Lastly, I filled the cavity of the tumour with soft charpee, which was retained in its situation by means of a compress and the six-tailed bandage.

After the operation was finished, which was of short duration, the patient fainted; however, he soon recovered, on vinegar being held to his nose, and complained only of a pricking sensation (*formicatio*), over the whole lower part of the extremity that had been operated upon. He took an emulsion, with twenty drops of laudanum, and slept quietly for two hours after. When he awoke, he said that the operated limb felt warmer than the sound one.

Next day the fever was greater; yet he had no longer so weak and contracted a pulse as before the operation.

On the fifth day, the great œdema, which extended from the foot to the hip, had almost totally disappeared, and there was a copious suppuration. The dressings were renewed, and the wound had a healthy look.

The 11th day. Whilst the necessary preparations were making for the dressing, a hemorrhage took place. I immediately made the artery be compressed at the crural arch; and after removing the dressings, perceived that the blood flowed out between the ligatures, which I therefore drew tighter; the blood, however, still continued to flow. I now drew the two reserve-knots close, the upper one as high as I could, upon which the hemorrhage ceased completely. After this accident, the patient was so stunned and enfeebled, that he was seized with convulsive motions over his whole body, which did not cease till towards evening, and after he had taken a considerable dose of laudanum and strong soup. The day after, I ordered him *Decoct. Cort. Peruv.* ℥*ix. Æther. Vitriol.* ʒ*i. m.* to be taken in small doses, in the course of the day, and to be continued the day following.

On the 20th day, I found the patient quite free of fever; and he begged earnestly for solid food, which I also allowed him. The bottom of the wound was almost of the same height with the integuments, and three ligatures came away with the dressings. The use of the decoction of bark was continued.

Towards the end of the fourth week after the operation, the last and uppermost ligature also came away. But the wound was not yet completely healed, as there was a sinus, which extended downwards three inches and an half from the lower angle of the wound. After it was laid open, the healing advanced gradually; and on the 25th day after the operation, it was completely cicatrized.

On the same day the patient got up, and walked a few steps with the assistance of a stick. During the three succeeding weeks he recovered his former strength, and left the hospital completely cured. I saw him about a year afterwards, and received from him the assurance that he had the same power in the whole left lower extremity as in the right, and could carry considerable burdens on his back as formerly.

### Case 2.

*Spurious Aneurism, from Effusion of Blood out of the Humeral Artery.*—A weaver, 30 years of age, of a meagre figure, who never had had any severe illness, on the evening of the 4th July 1795, without any evident cause, was suddenly attacked by violent convulsions, during which he lost his senses, frothed at the mouth, and beat about him in a frightful manner, so that it required several persons to keep him in bed. He was in this state when the physician, who had been sent for, came. He immediately ordered him to be bled in the right arm, which was done accordingly. The lancet was scarcely withdrawn, when the blood sprung out with such force, that in a very short time the quantity ordered was drawn. The surgeon had considerable difficulty in stopping the blood; however, he succeeded, with the assistance of several graduated compresses, and a tight bandage. The patient passed a quiet night, after the epileptic fit, if it really was one, had ceased. The following morning, besides weakness, he complained much of the bandage being too tight, which the surgeon therefore slackened a little. The arm seemed swelled, tense, and was of bluish yellow colour, and the hand was œdematous. In the course of a few days, as the swelling and tension of the whole arm had not in the least diminished, but, on the contrary, rather increased, so as to occasion violent pain, he came into this hospital.

Mr Volpi, one of the most skilful surgeons of the hospital, found, in this case, two inches above the bend of the arm, a swelling, almost of the circumference of a hen's egg, which beat like an artery, yielded a little on strong pressure, but did not disappear entirely; and in which, when the humeral artery was compressed above, the pulsation ceased, but began again on the pressure being removed. He farther observed, that the arm of itself remained in a state of half flexion; that the extension of it could not be attempted without much pain; and that it was considerably swelled, and here and there marked with pale livid streaks. The patient had no fever.

Under these circumstances, after prescribing a proper diet, it was wished to try the application of Theden's bandage, kept constantly moist with the cold fomentation of Schmucker; however, this plan could not be long continued, as it increased the pain and immoveability of the whole arm. In the mean time, the aneurism, from the effusion of the blood, augmented considerably.

On being informed of this, I had the patient brought into the clinical institute, and resolved, in conjunction with Mr Volpi, to tie the humeral artery both above and below the wound. Upon this, after the application of a tourniquet in the arm-pit, I opened the swelling, through its whole length, with one stroke of a bistoury. Immediately after the mass of coagulated blood was cleared out, the trunk of the artery appeared at the bottom of the cavity, and the part where it had been wounded, which was about two lines and an half in length, was distinctly seen. After introducing a probe into the artery, from below upwards, in order to raise it up, I easily passed a ligature under it for the upper knot; I then turned the probe from above downwards, raised the arterial trunk in the same manner, and surrounded it with a thread for forming the under ligature. Both ligatures, after small compresses were interposed, were drawn tight. On relaxing the tourniquet, no more blood flowed from the wounded artery. I filled the cavity of the swelling with dry charpee, and covered it with a compress, which was secured by a four-headed bandage, upon which the arm was carefully laid on a cushion, in a half-bended posture. After the operation, the patient took an emulsion, with 20 drops of laudanum. The pulse could not be felt in the least below the ligature; and the warmth was in some degree diminished. The patient remained quiet; but five hours afterwards a little blood appeared. The dressings were removed; but I could not discover from whence the blood came. I therefore again filled the cavity of the swelling with charpee, moistened with the styptic water, upon which the bleeding stopped. I made a steady pressure be applied, by an assistant, to the place operated on; and gave the patient, every three hours, some strong soup, and a spoonful of good wine. He passed a quiet night.

On the evening of the 2d August, the second day after the operation, some fever appeared. The patient was kept in the same way. The temperature of the arm was increased, and the patient had a good night.

Towards six o'clock in the morning of the third day, the dressings were again tinged with blood. The patient was pale; had a cold sweat; and a small contracted pulse. On removing the dressings I saw the blood come out, but evidently not from between the ligatures; I therefore applied a third ligature, as high as possible, to the trunk of the artery, but without the smallest effect. I therefore again had recourse to compression; and filled the cavity with charpee. Although the pulse could not be felt in the affected arm, the heat still increased, and was by one degree of the thermometer (Reaum. ?) higher than in the sound arm. The patient passed a quiet night.

4th day. The fever increased in violence; the temperature of the affected arm exceeded that of the sound by two degrees.

5th day. Fever still as violent. The pulse began to be perceptible, deep at the wrist. The dressings were a little moistened with pus.

6th day. I removed the outer parts of the dressings. The fever was the same. The pulse more perceptible.

7th day. As spots of fresh effused blood appeared on the charpee, I allowed it still to remain in its situation.

8th day. On complete removal of the dressings, I found the wound looked foul and pale; I therefore prescribed the following mixture:

℞ Decoct. Cort. Peruv. ℥ix.
Extract. ejusd. ʒij.
Laud. Liq. gtt. xx. m. Cap. cochl. iv. omni bihorio.

At the same time he took frequently a strong soup, with yolks of eggs and wine.

9th day. I found the wound gangrenous, with a small pulse, and more than usual debility. I made a drachm of vitriolic ether be added to the mixture, and omitted the laudanum, and recommended the frequent use of soups and wine.

10th to the 15th day. The gangrene advanced. The wound was sprinkled with bark and camphor. The patient had a liquid stool, with some relief.

16th day. The fever abated, and the pulse rose a little. The patient expressed a desire for solid food, and he was allowed half a fowl, and the mixture continued. The gangrene in the wound did not advance. The dressings the same.

17th day. Fever diminished, and pulse fuller. The gangrenous surface began to separate from the sound, and two small pieces of bone came away from the inner condyle of the humerus; the one about the size of a pea, the other of a lentil.

18th to the 25th day. The state of the patient approached always more to convalescence. The slough separated completely. The ligatures came away, and another small piece of bone was separated.

26th day. I found the patient free from fever. The wound suppurated copiously; and the bottom of it rose in a regular manner. I ordered a simple decoction of bark. The dressings consisted of dry charpee.

27th August to 4th September. The cavity of the wound filled up always more and more, so that, on the 5th September, the wound was quite superficial, and was about three fingerbreadths in length, and a little more than one in breadth. In order to remove the remains of the œdema, I surrounded the whole of the arm, from the points of the fingers to the axilla, with a compressing-bandage. The diet of the patient was increased to a whole fowl. From the 5th to the 15th, I continued the use of the bandage and the above-mentioned dressing; I allowed the patient to make gentle attempts to extend and bend his arm, and ordered warm olive oil to be repeatedly rubbed into the elbow-joint. He got out of bed, and carried his arm in a sling. The wound was a little more than the third of an inch.

14th September to 15th October. The patient remained in the hospital as convalescent, and then left it completely cured. He now continues his trade of weaver, and uses the right arm as well as the left.

### CASE 3.

*Bursting of the Humeral Artery, from Gangrene at the Elbow.*—A boy, about 13 years of age, of a scrophulous weak habit, and almost from his birth blind of both eyes, was brought into the hospital to be cured of a scrophulous ulcer, which had appeared about a month before, near the inner condyle of the right humerus, and was surrounded with irregular edges, and indurated cellular membrane. After this unfortunate boy had passed about a week in the hospital, without any evident cause, but merely through one of those complications which are pretty frequently observed in such places, the wound was attacked by the hospital gangrene. This happened on the 1st October 1795. The wound suddenly became pale, swelled, discharged no more pus, but a thin fetid sanies; it then inflamed, and, along with it, the whole shoulder and arm; a violent fever arose, with a small contracted pulse, severe pain in the arm, anxiety, sleeplessness, and great loss of strength. The gangrene gradually spread above and under the joint of the arm. I immediately ordered the patient internally, a decoction of bark with vitriolic ether, as in the former cases, along with strong soup and wine. The wound was sprinkled with powder of bark and camphor.

On the 10th September, the destruction by the gangrene was so considerable, that the wound extended more than three inches above and below the inner condyle of the humerus, so as to allow the pulsation of the almost denuded trunk of the artery to be felt for a considerable way. It was therefore dreaded, every moment, not without grounds, that the artery would be corroded and burst. To add to the distress, the patient's strength was very much sunk; and he was every minute attacked by subsultus tendinum, and sometimes by hiccup. The violent tension of the arm continued; and there was no appearance of the gangrene stopping.

What I dreaded actually took place. The artery burst the following day. The attendant, who never left the patient, and who was instructed in all that he had to do in such cases, immediately applied pressure to the artery in the axilla, as the tourniquet could not be applied, on account of the tension, and painful swelling of the whole shoulder. The bleeding was stopped by that means. On the dressings being afterwards removed, the humeral artery was found to have burst exactly in the middle of the gangrenous wound. After having introduced a sound through this slit, from below upwards, the artery, which was already loosened by the sphacelus, was easily raised; and Mr Branca, who holds the situation of assistant-surgeon in the practical school, surrounded it with a waxed ligature, by means of the common needle, somewhat more than an inch above the place where it was ruptured. The same was also done below the aperture. On the knots being tightened over a small compress, interposed below the ligature, the hemorrhage entirely ceased. The whole wound, as usual, was sprinkled with powder of bark and camphor, and covered with soft charpee, and a four-headed bandage.

Notwithstanding the great celerity with which this operation was undertaken and completed, yet even this small loss of blood from the artery, threw the patient into the most imminent danger of his life. By the uninterrupted attention with which strengthening remedies were given him, and by the plentiful employment of strong soups and wine, he was rescued from death. Immediately after the tying of the artery, the pulse disappeared, and the hand became cold. Four hours afterwards, it was found to be as warm as the sound one, and the patient complained of a distressing itching in it.

12th Sept. After a copious evacuation of fluid matter, the patient slept quietly for three hours, and his strength seemed a little better. The hand continued warm; and if the finger was laid gently on the wrist, on the opposite side to that of the wound, a deep motion could be felt in the radial artery, which disappeared if the wrist was pressed a little more.

13th. The temperature of the hand, and of the operated arm, exceeds that of the sound by three degrees. The swelling of the affected arm is considerably diminished, and the fever abated. On removing the dressings, the gangrene was found to have stopped; and in some points, was disposed to separate.

14th. The patient had passed a quiet night; and at day-break had had a liquid stool, with much relief. The fever lessened since yesterday. The gangrene has separated considerably at three places, and left the subjacent parts of a bright red.

17th. The temperature in both arms is the same; fever moderate. The patient begged for solid food, and he was allowed the quarter of a fowl. The use of the mixture was continued, but at longer intervals.

20th. The gangrenous slough has separated completely, and the wound looks well. The upper ligature has come away of itself.

22d. The under ligature fell out spontaneously, on removing the dressings. The fever gone, and the bottom of the wound seemed to be of an equal height with the integuments.

25th. The arm allows itself to be bent and extended easily; and the patient himself, with the assistance of the other hand, brought the operated arm repeatedly into the state of flexion and extension.

29th. The wound is almost completely healed.

1st October. The patient was raised out of bed, and placed on a chair, with his arm in a sling, and remained sitting for several hours.

10th. The wound is completely closed, and the patient moves his arm quite freely, with the exception, that he cannot make a complete extension, in which he is chiefly prevented by the scar. The pulse of the radial artery is still very weak, and only perceptible when the finger is applied to it very gently. After repeated friction with olive oil, over the whole elbow, the patient stretches out his arm tolerably well.

25th. The boy, who, as far as his weakly constitution would allow, was again restored to his strength, was dismissed from the hospital, and moved the right and left arm with equal power.

## IX.

## *Concise Observations on Anæmia**, *a Disease which attacked all the Workmen of a Gallery in a Coal Mine, now worked at Anzain, Frenes, and Vieux Condé, near Valenciennes; and which has been observed and treated, in Four of these Workmen, at the Hospital of the School of Medicine of Paris.* By M. Halle, Professor at the School of Medicine at Paris †.

It is not my intention to give a complete detail of the disease which has attacked the workmen of the mine at Anzain, till the observations on it be completed, and till those commissioned to give an account of it have finished their charge. I shall, therefore, at present, confine my observations to those points which relate chiefly to the natural history of this epidemic, and which indicate that mode of treatment which is most proper to effectuate a cure. Of all the galleries in the mine of pit-coal near Valenciennes, the principal establishment of which is at Anzain, one only has been infected with the epidemic in question. This gallery, however, differs in no respect from the rest; it is of the same depth, being 234 metres (120 fathoms) below ground; it is excavated in the same manner, only, it is longer, and less easily admits of a renewal of air; and the apertures that have been made for this purpose have not had any beneficial effect. Its temperature is 64° Fahr.; it exhales an odour of sulphurated hydrogen gas; in it respiration is difficult; and the workmen affirm, that the water which filters across the mine, on touching their hands, or the naked parts of their bodies, produces blisters and boils. Nevertheless, they have had the imprudence, notwithstanding the fresh water which is provided, and the prohibitions which have been given, to use it sometimes to allay their thirst; and yet, before the summer of the eleventh year, no disease had been observed similar to that which I am now going to describe.

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* Lieutaud (V. Precis de Medecine Pratique, pag. 75.) is the only person who has described this kind of disease, which is seldom idiopathic, if it be not confounded with chlorosis, to which it bears a very strong analogy. The symptoms which Lieutaud attributes to it, differ, in some respects, from those of which we here give the detail, and resemble them in others. Besides, the disease of which we are now speaking appeared epidemically, and was attended with an uniformity of symptoms which, in a particular manner, characterizes it; but a part of these symptoms may belong to the particular nature of its cause, whatever that cause may be. Their uniformity in all the patients who have been infected with it, clearly demonstrates that it is local, and that it belongs exclusively to those places where the disease has been contracted.

† See Journal de Medecine, Chirurgie, Pharmacie, &c. Par M. M. Corvisart, Leroux, et Boyer, Tom. IX. p. 3. 8vo. Paris, An. XIII.

According to the description of it sent to the School of Medicine, it chiefly has the following characters: It commences with violent colics, pains in the intestines and stomach, difficulty in respiration, palpitations, loss of strength, inflation of the belly, and black and green stools. This state continues for 10 or 12 days, or more; then the abdominal pains cease; the pulse remains feeble, contracted, and weak; the skin loses its colour, and gets a yellow tinge; walking is difficult, and accompanied by extreme fatigue; frequent palpitations cause an extremely painful state of anxiety; the face is swollen; and there are frequent, and even habitual sweats. This state continues for many months, and even more than a year, and is always attended by wasting and emaciation. At last, the original symptoms recur, with violent headachs, frequent faintings, intolerance of light and sound, inflation and pain of the belly, and purulent stools. These last torments are soon terminated by death.

When these details were transmitted to the Society of the School of Medicine, out of fifty attacked with it, three had died, and none were cured. Bark, camphor, opium, wine, spare diet, and many other means which seemed proper, were used, without success.

The Society, upon deliberation, drew out at first a plan of treatment, conformable to the general indications, in which it considered particularly the analogy which the disease seemed to present with the metallic colics, and with some chronic consequences of the *asphyxia,* known to vintagers under the name of *plomb.* Then, upon the supposition, unfortunately too probable, of the inutility of a plan of treatment drawn up in a general way, from apparent indications, the Society proposed, according to particular observations, and in an empirical manner, the trial of mercurial frictions, the internal use of oxygenated muriatic acid, diluted with water, &c. But, above all, it demanded more particular details of the state of the places; recommended the opening of the dead bodies, which had hitherto been omitted; and expressed a desire that it should have an opportunity of directly observing some of those affected, which could be easily done, since the second stage of the disease was sufficiently long to enable some of the workmen, most severely affected, to be sent to Paris, which has accordingly been done.

Accordingly, four pitmen were sent to Paris, with the necessary information, either written, or delivered verbally by the physician who attended them. A plan of the galleries of the mine, air and water taken in the infected gallery, farther details concerning the sick, and minute accounts of the examination of two dead bodies were given. It was observed, that the methods proposed by the Society of the School of Medicine had been comparatively employed; that of six workmen to whom the frictions had been applied, two were cured, and had resumed their labour, but the other four were yet under treatment; and that doubts were entertained, whether to this remedy they were indebted for the cure. In fine, it was observed, that among the infected workmen, the number of whom was increasing, there were two states, considerably different: Some, having been attacked in the mine itself, were very severely affected, and, of these, none had been cured; but others had been seized with the disease since the gallery had been shut up, and to many of these health had been restored.

We received no written account relative to the particular history of the men who have been sent; but as they had been ill for eight, twelve, or fifteen months, and as they began to be affected when they were at work, we believe that they ought to be ranked in the first class.

When they arrived, they were of a wan yellow colour, not like that of men affected by the jaundice, but like white wax which has been long kept. They were œdematous; the face, as also the superior extremities, were swollen in a particular manner; the legs were also swelled, but this, perhaps, might be owing to the fatigue of the journey; and indeed, after two days rest, they became less œdematous, and as lean as in their natural state. The loss of colour was general over the surface of the body; and not only was the skin wan and yellowish, but the conjunctive, the inside of the eye-lids, of the lips and mouth, and the tongue, were also deprived of their natural colour. No ramification of capillary vessels appeared on any of these; and, in general, no vein was visible on the arm, bend of the fore-arm, and back of the hand, either by its colour or convexity.

The belly presented no disorder sensible to the touch, only the mesentery seemed to be considerably larger, though soft; and the hypochondriac regions appeared to be free.

The pulse was constantly quick, beating eighty, ninety, and a hundred times in a minute, without, however, the skin being hot. Yet, at any time, when actual fever supervened, the skin became warm, the pulse was also quickened, and the other symptoms announced a change in the habitual action of the functions. Besides, the pulse was frequently altered by the palpitations; and the heart, even when it did not palpitate, beat very strongly against the ribs.

Another symptom, no less constant, but different from palpitations, and which may well be supposed to be a consequence of them, was the patients inability to walk, without being obliged to stop, and to sit down at the end of a few steps. They could not even mount one pair of stairs, without being obliged to sit down frequently in the staircase. Still the percussion of the breast did not indicate any congestion in the viscera of that cavity, nor any quantity of diffused water. The palms of their hands were frequently moist, and they had habitual night-sweats. Besides, these men, one of them excepted, had a good appetite; they ate, with avidity, food which was agreeable to their taste. They disliked butcher-meat; and had other tastes, which appeared to be the effect of habit, rather than of disease. They digested easily; but their stools did not indicate a perfect or equal digestion. They were often half liquid, sometimes liquid, brown, yellow, and sometimes green. The urine, in general, had its ordinary colour.

Thus the characteristic symptoms were the universal loss of colour and yellow tinge of the skin, swelling, impossibility of walking without suffocation, palpitations, and habitual sweats. Some days after the arrival of these men, and when they were familiarized with the objects around them, considerable attention was paid to the regulation of their diet. Substantial aliments and foods, such as they desired, and for the most part roasted, were given them. They were also supplied, at first, with excellent beer, then with good wine, and bread well baked. Their appetites and desires were satisfied, as far as prudence would permit, consistently with the necessity of selecting their food in a proper manner. In a word, nothing was neglected to prevent any moral affection from aggravating their disease.

Guided by the report of the physician who accompanied them, and the presumed success of the mercurial frictions, they were administered, at first, every third day, in doses of a drachm, and, at the same time, antiscorbutic wine was given them, and bitter drink, made of hops and little centaury; which corresponded both to the apparent indication drawn from the symptoms and the inconvenience naturally to be dreaded from the use of the mercury.

During this treatment, one of the patients fell a victim to the disease. He had always appeared more languid, and had less appetite than the rest, and was affected with a rheum for a few days after his arrival. The frictions had been commenced upon him, as well as the rest, on the 15th of *Messidor*, but were discontinued on the 25th, because a very sensible tendency to fever was observed during these days. The fever continued; and on the 6th of *Thermidor*, it assumed a serious aspect; it was continued in its form, with pain in the limbs, and acute headach, and the pulse was even hard. Notwithstanding the violence of the fever, and the dryness and burning of the skin, neither the tongue, the lips, nor conjunctive was coloured; and the tongue was perfectly clean, as well as that of the other patients. The belly was swollen, and painful to the touch; and along the inferior edge of the ribs of the right side, a resistance was felt, which was supposed to be the liver. At the end of 48 hours, the fever abated, the pulse became weak, and there were efforts of vomiting, which only produced some slimy matter, to assist which, an emetic cordial potion was given, without the desired success. Great oppression, a feeble and intermitting pulse, and cold extremities, succeeded. A blister applied to the side, and repeated as a stimulant, raised the pulse only for some hours. The intermission increased, as well as the cold extremities and oppression of the breast, and the patient at last died.

The belly was a little swollen; there were no livid marks on the skin, and the colour was in general the same as in the course of the disease.

The abdomen contained no serous exudation. The intestines, and especially the colon, were very much distended; and the fat, both subcutaneous, and in the omentum and mesentery, was very yellow. The liver was small, and did not project beyond the ribs; it was soft and pliable in every part; it was of a pale yellow colour, both externally, and in its substance, which was soft and unctuous to the touch. The gall bladder was half full of bile, of a colour like the yolk of an egg; and when analyzed, was found to contain much coagulable albumen, and possessed some other peculiar properties. The spleen was small, and softer than ordinary; and the liquid which flowed from it, as it generally is, was red, like the dregs of red wine.

The stomach, when opened, was found half full of a liquid, coloured like the dregs of wine. The duodenum and the jejunum were lined with a mucous membrane, of a similar colour; and when that mucous was removed, the membrane, both in the stomach and intestines, in all their extent, appeared white and sound. The matter contained in the rectum was thick and figured, and of a greenish brown colour. All the other abdominal viscera were sound.

In the cavity of the thorax, the right lung adhered almost every where to the pleura, and especially on its anterior part, but the left lung was almost entirely free. In neither was there any remarkable quantity of serosity; both were light, decrepitated under the fingers, and there was no congestion. They were externally white, and mottled with dark blue spots; and, on incision, a frothy yellowish serosity issued from all points of their substance, but not from any preternatural collection. The heart was of a very ordinary size, and its flesh as pale as that of muscles which have been washed and macerated. Its parietes were soft, and the *columnæ carneæ* small. Its structure was not at all affected. Not a drop of red blood escaped from any of its cavities; but in the left ventricle, a coagulum, as pale as the flesh of the heart itself, was observed, which contained no perceptible portion of colouring matter; the pericardium contained no serosity.

The brain was white; the cineritious substance pale, and little distinguished from the medullary substance. Two or three scruples of serosity only were found in the posterior part of the left ventricle; and the choroid plexus was red, but very pale.

In the three cavities, all the vessels, both arteries and veins, were destitute of coloured blood, and contained only a small quantity of a serous liquid. No blood was found in the aorta as far as its crural subdivisions, nor in the axillaries as far as the brachial subdivisions, nor in the accompanying veins, nor in the system of the hepatic vessels, nor in any of the sinuses of the brain. Upon making a deep incision into the flesh of the thighs, there flowed out a small quantity of liquid and black blood, but from no other part did any flow. The flesh of the muscles which cover the thorax was exceedingly red; but that of the extremities not so much so.

It is worthy of remark, that the same absence of blood occurred

red in all the dissections made where the disease appeared; that it agrees with the general loss of colour observed in all the parts which are naturally red, and especially the surface, where the red blood is obviously admitted into the capillary system. It may be regarded, therefore, as a state particularly dependent on the disease; as exhibiting itself by evident symptoms during its whole continuance; and arriving at its height when the disease is at its termination, or its last stage.

Struck by this phenomenon, and the generally sound state of the substance of all the organs, we immediately thought that the use of chalybeates would perhaps have been a better treatment, than that of simple bitters, antiscorbutics, and especially mercurials, for we knew that cinchona itself had been given without success. We therefore determined, immediately to change the treatment; and without abandoning the bitter and antiscorbutic tonics, and cinchona, we proposed to give iron in large doses. We prescribed an opiate with a drachm of bark, as a tonic, with a drachm of muriate of ammonia as a stimulant, and a drachm of levigated filings of iron; this quantity was to be used by each patient in the course of a day. But having observed that the patients felt from time to time racking pains in the bowels, we suppressed the muriate of ammonia, and the pains ceased.

We were afraid lest the sad fate of the first patient should have had an influence on the minds of his companions; but in this respect, we had no difficulty to encounter. The hope that the opening of his body would put us upon a more successful mode of treatment, without taking away their regret for his loss, prevailed over it decidedly; and, without doubt, this impression had very good effects.

In fact, the treatment having been established on the basis just now pointed out, at the end of eight days symptoms of a very happy change became evident. It was first indicated by the obvious swelling of the veins, then by the coloured traces of the vessels, which became visible through the skin on the fore part of the wrist; in fine, by the patients being able to mount the staircase without being obliged to stop. They shewed us every day new vessels, which they pretended were not seen the preceding evening; and in fact the conjunctive, the inside of the eyelids and of the lips, the gums and the tongue, were plainly regaining their colour. The appetite became better; and digestion, though variable, successively became more regular. A bowel-complaint, relieved by diascordium, was not of long continuance. At present, these men take very long walks in Paris, without experiencing any fatigue, only the palpitations of the heart have been very inconvenient, and have not yet disappeared.

There is however one, whose re-establishment has not followed the same course; and who, tormented by frequent headachs, seemed to be threatened with a less favourable issue. We have understood, and are convinced, that, besides the common causes of the disease, there were others acting, capable of inducing very serious consequences. These, we think, we have succeeded in removing; and, since that time, his appetite and activity have returned, so that, although less advanced than his companions, he is now in the same way which has led them to that point of amelioration in which they now are. The other patients have at present a colour but little different from that which is natural. The palmar surface of the forearm, the skin of which is more transparent than that of the other visible external parts of the body, is now of the healthy colour. It is three months since they arrived at the School of Medicine.

According to these phenomena, and the physical state, to which we do not doubt but they correspond, we think it proper to give to this disease the name of *Anæmia*, (deficiency of blood) imagined by Lieutaud, and to distinguish *anæmia chlorosis* and *anemia consecutiva*, which are consequences of different diseases, from the *anemiæ*, which depend upon the different causes mentioned by Lieutaud, and many others, upon which several of our brethren have communicated to us their ideas, and of which they have promised us the details. But it is not proper here to enter on a deep discussion on that subject. We hope to be enabled to follow out our observations on many other workmen equally affected by the same causes, and in the same place; and then, perhaps, we shall be able to announce with more certainty what we here offer only as probabilities.

## *Additional Observations on the Four Patients mentioned in the preceding Essay. By Professor Hallé.*

The subsequent observations, which have been made upon the patients attacked by a disease contracted in the coal-mines of Frenes, Anzain, and Vieux-Condé, deserve to be annexed to the preceding essay, as they give rise to some useful reflections.

1. One of them, named *Jean Louis Calard*, aged twenty-one years, of a strong constitution, had wrought in the mine for eight years, was attacked only nine months ago; and continued to work several months afterwards.

In him it did not commence by colics, but only by anxieties, dyspnœa, palpitations, the passage of black and brown feces, loss of colour, œdema, headach, and great debility.

He had got several times the tartrite of antimony, then sulphate of magnesia, in the dose of six drachms a-day, and sudorifics; and after having tried opium, camphor, and ether, recourse was had to wine prepared with red bark, for six weeks.

At his arrival, he was less sick than the others. His pulse not being so much accelerated, was, for the most part, 70 in a minute. His body was less meagre, his face and extremities less œdematous, and his skin was not dry.

He was dismissed on the 11th of *Vendemiaire*, having recovered his strength, and having his face less pale than at his arrival, but still feeling some palpitations. After an interruption of the cure for five days, he again began to lose colour; but on resuming his remedies it returned; and ten days after, he was dismissed with his comrades.

2. *Joseph Jolly*, the second, aged twenty, of a weak constitution, had wrought in the mine for ten years, and became sick only about nine months ago. His disease began by loss of strength; and he had suffered little from colics and purging, but the loss of colour supervened, attended by frequent syncope, general œdema, headachs, &c.

He had been formerly treated with purgatives, administered fifteen days in succession; after which, recourse was had to the analeptic regimen, wine of cinchona, tonic and cordial potions, and now and then to the sulphate of magnesia, to obviate constipation.

At his arrival, he was better than he had been previous to spring; his skin was sometimes moist, and sometimes dry; the pulse, in general, was about eighty-six; and, in the course of the treatment, it was observed that he had contracted a habit, exceedingly fatal in his situation, and which gave rise to his violent headachs, which had been falsely ascribed to his disease.

This patient was for a long time in a more languishing state than the others, but appeared better at his departure; nevertheless, he still experienced pains in his limbs; was pale; and was very far from being completely cured.

3. *P. J. Galliard*, betwixt nineteen and twenty years of age, had wrought in the mine for eight years, but had been unable to work for the last eleven months.

His disease began by very violent colics, which continued nearly a month. Anxiety, loss of colour, general œdema, violent headachs, tinkling of the ears, vomiting, and palpitations, had rendered his condition truly distressing.

Oily and sedative potions, anodyne injections, and mild purgatives, had been administered, after that, tonic and stimulating

ing potions, which had restored his strength a little, and also the oxygenated muriatic acid, in the form of lemonade.

At his arrival, we were informed that he was greatly bettered by the fine weather; but his pulse was 104, without any sensible increase of heat. Besides that quickness of pulse, he had often other symptoms of fever, which at first had remissions in the course of the day, and then became continued, with burning heat, and violent headachs; and he fell at last into that state which occasioned his death, and of which we have spoken at sufficient length in the preceding part of the paper.

4. *Theophilus Habart* was aged sixteen years, and still had the appearance of a boy. He had wrought in the mine for six years, and had been ill for twelve or thirteen months.

His disease began by colics, universal lassitude, purging, palpitations, general œdema, which has continued for many months, debility, to such a degree as rendered him unable to walk, loss of colour, and headachs, &c.

He had used emetics repeatedly, sudorifics, and sedative potions; he had continued for a long time the use of aperients, conjoined with tonics, had now and then recourse to laxatives, and for a month, the oxygenated muriatic acid diluted with water.

At his arrival, we are told that he was much better, but his pulse was 94. His belly was very large, his face very much swollen, and his debility great.

After having perfectly recovered his strength, he was dismissed, as well as *Jean Louis Calard*, with whom he took very long walks in Paris. His face, however, had still a soft fulness, which might be taken for a swelling, and his colour had experienced the same changes as that of *Calard*.

From these details it appears, that *Gaillard*, the worst of those four, had died, with symptoms extremely similar to those which were reported as characteristic of the last stage of this singular disease; that some serious circumstances, unconnected with the disease, had retarded, and rendered more uncertain the cure of another *(Jolly)*; that of the two, *Calard* and *Habart*, who had obtained the most complete cure, one had been ill only eight or nine, and the other twelve or thirteen months: That *Calard*, who had been least ill, had however continued his work for several months before being obliged to abandon the mine, consequently, that the disease of all had been contracted in it, which, according to the report of the physicians of the place, was an untoward circumstance: That in *Calard*, the disease had not commenced by colics, and was attended with symptoms less violent than in his comrades; but that the other *(Habart)*, the youngest of all, had

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a very violent and long attack with colics. It is obvious, that all have been treated in the hospital of the school of medicine only in the calm stage of the disease, in which the cachexy and loss of colour insensibly increased until they reached their acmé; and that it was in this only, that the patients could be transported from so great a distance. In fine, deplorable as the state was in which we received them, it is obvious, from the report of the physicians who had seen them at Frènes, that it had been still worse.

However, it also appears, that that extreme debility, which had arrested the patients almost at every step, and which is the most serious, and may be regarded as the fundamental symptom of the disease, has been entirely removed in *Calard* and *Habart*, and its removal may be dated from the time that chalybeates were added to the tonics; that these two patients, among the three who have survived, are the only ones who were free from symptoms foreign to the principal disease; and that the tonics, to which the chalybeates were united, had been previously used without success.

It may be presumed therefore, with great probability, that the chalybeates contributed principally to re-establish the patients, and consequently, that great advantage may be derived from these remedies, in diseases of the nature of chlorosis.

But it must be observed, that the loss of colour has been but imperfectly cured by this remedy; that the disposition to palpitations was not entirely removed; and, that regarding these symptoms only as consequences, and subordinate to the principal symptom, their continuance proves that the cure is by no means complete, and ought to be prosecuted by the same means which appear to have commenced it.

However that may be, it is to be wished, that these reflections were confirmed by the observation of other physicians, who may have the charge of patients of this kind, and that an opportunity may be afforded us of completing them, upon some of the pitmen who are still affected with the disease.

## X.

### *Biographical Sketch of Vicq D'Azyr.*

FELIX VICQ D'AZYR, a distinguished French anatomist and medical philosopher, was born at Valognes in 1748. His father was a physician at that place. Little is known of his early years, except that he began his studies at his native town, and afterwards attended the philosophical classes at Caen. Before he made choice of a profession, he devoted himself to literature; he exercised his genius in several walks, and cultivated a taste for poetry, of which he always continued to be very fond. In the early part of his life, he was desirous of giving himself wholly up to the pursuits of literature; and with this view, he was on the point of entering into the holy order of an ecclesiastic, but he relinquished this intention, and complied with the wishes of his parents in following the study of medicine. He went to Paris in 1765, and availed himself of all the advantages which that capital offers to a young mind, eager in search of knowledge. Medicine presented itself to Vicq D'Azyr, as a science comprehending the most useful parts of natural knowledge. He was struck with its numerous relations to other branches, he felt the importance of other sciences for its illustration and improvement, and he devoted himself to the study of them all, with a zeal and spirit which alone are sufficient to insure success. To form an idea of the variety and scope of his labours, it is only necessary to take a general view of the state of physical science at the period when he first appeared among the distinguished men who were engaged about that time in experimental researches. Their labours and their names are too well known, to need any enumeration in this place. In 1772, Vicq D'Azyr took his degree of doctor in physic, and he wrote a thesis upon an interesting point of anatomy, viz. the consideration of the means in the structure of the head, by which the force of different kinds of shocks and concussions is lessened and broken: "*An inter ossa capitis varii nisus absumantur communicatione, vibratione, oppositione?*" He continued to study medicine, and all the departments of natural philosophy, with great attention, but especially physiology, to which he was very much attached. In 1773, he began a course of lectures on human and comparative anatomy, at *L'Ecole de Medecine*, during the recess; and his reputation as a teacher was as brilliant as his merits were deserving. The concourse of students, who crowded to hear him, was very great; and the rising fame of the young professor excited the jealousy of the old, which occasioned his being prohibited, under some frivolous pretext, from continuing his lectures after the classes began. But a mind like Vicq D'Azyr's was not to be damped by such paltry animosity; he was encouraged and protected by Antoine Petit, his master and his friend, and was chosen by him to occupy his own anatomical chair at the *Jardin des Plantes*; but this appointment not being confirmed by the Academy, nor by the Court, the professorship was given to Portal. Vicq D'-

Azyr being thus obliged to leave a theatre, on which he had just made his appearance with such eclat, opened a private course of anatomy, and was afterwards appointed to teach this branch at L'Ecole de Medecine. By collecting together the various parts of his acquired knowledge, he made that comprehensive course of anatomy and physiology, of which he has unfortunately left only the outlines. He endeavoured to apply the analytical method pointed out by Bacon, and followed by Condillac in his *Traité des Sensations*, to organized bodies in general; and to consider man in connexion with the other links in the great chain of animated beings. An alarming attack of spitting of blood, compelled him to suspend the lectures that he was delivering, with these new and philosophical views. When his health was somewhat recovered, he went to his native place, in hopes of a more speedy re-establishment. This interruption of his academical occupations was not, however, lost; for this retirement, not far from the sea, afforded him an opportunity of making some original and curious inquiries upon fish. The result of his researches was communicated in a memoir to the Academy of Sciences, and the author was admitted a member of that learned body. About this time, he entered on a new and important career. A violent contagious disorder was raging among cattle in the south of France, when the minister *Turgot*, applied to the academy for a physician, and a natural philosopher, who could investigate and put a stop to this disastrous malady. Vicq D'Azyr was alone charged with this twofold mission, and he fulfilled the important objects of it with great satisfaction. On his return, he was nominated perpetual Secretary to the Medical Society, which he established for the purpose of inquiring into the nature and origin of epizootic diseases, though the members did not confine themselves merely to comparative pathology, but embraced all medical and physiological subjects; and this opened a communication between the medical practitioners in different parts of France, which did not before exist, however useful such societies always are, for objects of local as well as general importance. The first volume of their transactions was published in 1776, and Vicq D'Azyr constantly contributed to them.

Endowed by nature with a vigorous understanding and a quick perception, he directed his attention to all departments of the medical art, and contributed something towards the improvement of each. As an anatomist, his name stands high amongst those who have particularly studied this branch, because he filled up some blank spaces in the chart of that science. His first researches were turned to the structure of fishes, and he made some important observations respecting their peculiar organization.

tion. He next gave a descriptive and physiological account of the bones and muscles of birds; and in a learned dissertation, he traced the parallel pointed out by Aristotle, between the upper and lower extremities in the human body, which led him into a variety of ingenious reasonings, with regard to man being indebted to his hand for the superiority he possesses over all other animals. The structure of the organ of hearing in birds, and of the organs of voice in different classes of animals, furnished subjects for two memoirs, in which he details some anatomical discoveries, and points out some interesting views in physiology. He published several papers on some practical points in surgery, in the Memoires de la Soc. Roy. de Med. 1776: and shewed himself quite a master, well informed as to the philosophy and literary history of medicine, in his *eloges* on eminent men, and in the miscellaneous articles which he wrote for the *Encyclopedie*. The principal of these, are the articles *Abus*, *Adustion*, *Accupuncture*, and *Aiguillon*. Morbid anatomy attracted a considerable share of his attention, and the different subjects of this sort that he investigated, may be found under different heads in the Diction. de Med. Encyclop. Tom. II.

The great object, however, which engaged the principal attention of Vicq D'Azyr, was a series of anatomical inquiries on the brain. He published a splendid work in folio upon this subject, accompanied by plates, remarkable for their elegance and accuracy. Prefixed to this work, a preliminary discourse is introduced, which contains many interesting remarks, not only concerning the anatomy of the brain, but upon topics of more general and enlarged importance. He meditated a complete treatise on anatomy and physiology, upon a large and comprehensive plan; but he did not live to complete his design. Two discourses are printed, which abound with facts and scientific illustrations, interspersed with philosophical views, and characterised by bold and striking thoughts, and legitimate induction. He left the syllabus or outlines of these lectures, which does him credit for the extent of his notions and information; and enough of his favourite project has been fulfilled, only to increase our regret that he did not finish the undertaking. Not satisfied, merely with enriching his favourite science by his discoveries and his indefatigable labours, he was desirous of its having a new nomenclature of its own, similar to that of modern chemistry; and he suggested a reformation in the language of anatomy, such as occurred to him after examining the works of Bacon, Locke, Condillac, and Linnæus. The project which was started by Vicq D'Azyr, has been since attempted to be carried into execution by Dumeril, Chaussier, and Dumas in France, and the same subject has given rise to a very ingenious work in this country by Dr Barclay.

In 1778, Vicq D'Azyr was elected to the place in the academy made vacant by the death of Buffon. His compositions and harangues delivered before that assembly, are of unequal merit; but some of them abound with brilliant passages, and all betray the writer's industry and taste. He married early in life a niece of the celebrated Daubenton; but his wife died within 18 months, after a long and painful illness. This event shed a sort of melancholy over the rest of his days; he did not marry again, but applied himself with greater assiduity to his studies, in which he was favoured by an ample fortune, that supplied him with the best books, and the most valuable apparatus. His passion for books was very strong, yet it was founded more on a love of what is really useful and instructive, than for what is deemed curious and rare. His library was extensive; and he proposed arranging his books in a genealogical manner, so as to place original authors at the top of any series, and the host of copyists, commentators, imitators, and translators, in a descending scale below them, in order to shew the small number of grand and original ideas and first principles, pacing on towards immortality, and to mark the quantity of inferior works arising from these. He kept an exact register of his employments; and he noted down upon separate sheets of paper, not only the result of experiments, but his loose thoughts, plans, and projects, and these he arranged with such precision, that he could turn to them at any time, and form new associations, and new combinations of ideas, as often as he revised this collection. This ingenious device, for reviewing one's self as it were, he strongly recommended to others; and he used to declare, that he never left off this examination, without feeling his understanding more convinced, more vigorous, and more confident in the expectation of success in his pursuits. The variety and extent of his information, made him a sort of arbiter among his colleagues. One day he was called upon to elucidate a point, which furnished great amusement at the expence of a certain doctor, who read a paper at the Medical Society. This man, who had borrowed the display of his erudition from *Haller*, and quoted as authorities, supposed to have been consulted by him, the names of authors, of which he did not know the meaning, frequently mentioned in his memoir the name of Dr *Parisini*, and applied the epithets learned, illustrious, and celebrated to this personage. Compliments thus bestowed, upon a person whom nobody knew, excited particular attention among the members of the society. Vicq D'Azyr was applied to, but he confessed that he was wholly unacquainted with such an author as *Parisini*;

*sini;* till at last it was discovered, that an unfortunate blunder had been made by their learned brother, for he had mistaken the reference made by Haller, who always called the members of the Academy at Paris by the title of *Parisini!*

The disastrous events of the Revolution affected Vicq D'Azyr's health, already weakened by incessant application to business and study; he suffered great anxiety and uneasiness for the loss of many valued friends, who fell victims to the merciless fury of the first periods of the political troubles. After being exposed to excessive heat and fatigue on some public occasion, he was attacked with an inflammation of his lungs, and died on the 20th day of June 1794. The private life of this eminent man was as amiable and exemplary as his public character; his manners were mild and unaffected; his habits simple, and his conduct marked with proofs of the liveliest sensibility; he was not less esteemed for his scientific acquirements, than for skill in his profession. A complete collection of his works was lately published at Paris, in six volumes 8vo. with a folio volume of plates; and an account of his life and writings is prefixed, by Jacq. L. Moreau, from which the materials of this biographical sketch have been selected.

## THE INQUIRER. No. IX.

### *On the Cure of Scrophula by the Royal Touch.*

POPULAR remedies and new discoveries are seldom received with impartiality, especially if they interest much the health of the great mass of the common people, or if they be connected with hopes of immediate advantage. The most opposite passions are called forth, and come into play all at once, whenever the subject is brought forward for discussion. Credulity, love of the marvellous, prejudice, inspired by an ardent desire for the truth of whatever tends to relieve the infirmities of human nature, lead many to believe and adopt them without any examination; whilst, on the other hand, through indolence, self-love, and vain scepticism, others reject and criticize them with anger, even when facts speak highly in their favour. We have seen successively antimony, bark, inoculation, metallic tractors, and the cow-pox, furnish striking examples of this ridiculous contrast. Another still more remarkable instance of the folly and frailty of mankind is afforded by the miraculous cures said to have been accomplished by our kings and potentates laying their hands upon persons afflicted with scrophulous diseases. I propose giving an account of this singular privilege, formerly exercised in this country, and I shall detail some of the principal circumstances connected with the history of this royal remedy.

The evidence in support of this mode of curing scrophula is very complete; the efficacy of it is confirmed by public and private records, by the testimony of writers who were eye-witnesses to what passed in public, and of persons who assisted in the ceremony. The fallacy of such a remedy we feel, indeed, experimentally; but it is difficult to account for the ignorance or knavery of those men who boasted so much of the wonderful effects of the royal touch, without any inquiry into the grounds of their triumph. It is curious, also, to observe, how much the opinions of a nation are liable to alter in the course of a century, or even half that period; for I have no doubt, that the belief in the royal touch was as universal, an hundred years ago, as the contrary is now; and to call it a system of fraud and deception, would then have appeared as singular, and have been thought as absurd, as it would be at this time to write or to talk in its defence. But even in these days, a part of this system, though antiquated, is not wholly exploded, for there is a farmer in Devonshire who is a ninth son of a ninth son, supposed, in consequence of his birth-right, to be endowed with extraordinary powers in the healing art; *he strikes for the evil*, as it is called, one day in every week; and I am informed, by an intelligent surgeon, that some of the cures of scrophulous cases are really astonishing. His fame is high in that district; and he takes care to preserve his credit, by not undertaking the cure of all cases; besides, he has a charm for the toothach, which may be purchased by sixpence, which, if always worn in the pocket, keeps off pain, although it will not prevent the decay of the teeth.

*Edward III.* the Confessor, is the first who touched for the king's evil, and he is said to have received this special privilege from Heaven, and the power is attributed to all his lineal successors. But *Malmsbury* says, they are to be blamed that attribute it to his royalty, and not to his sanctity. Consequently, there is no reason his successors, who certainly were no *saints*, should be so highly favoured. *Rapin* remarks, " the late King William " III. of glorious memory, was so persuaded he should do no in" jury to persons afflicted with this distemper, by not touching " them, that he refrained from it all his reign." The kings of France have claimed the same privilege; but our writers have made it out, that they derived this by sprig of right, by virtue of their alliance with the royal family of England. The astonishing blessings of this royal favour were conferred not only upon English, Scotch, Irish, and Dutch, but on French and Germans, and on persons of all countries whatsoever, who came far and near to receive the benefits of it. The practice continued in vogue nearly seven hundred years, for it is recorded of Dr Johnson, that he was touched, though without effect, by *Queen Anne*. And what is curious, Johnson's mother, who yielded to the superstitious notion as to the virtue of the royal touch, brought him to London for that purpose, by the advice of the celebrated Sir John Floyer, then a distinguished physician at Litchfield. This seems to show, that the belief in the efficacy of the ceremony was common at that time amongst men of sense and reflection, which is corroborated, by no notice being taken of it, as a superstitious observance, in Sir Thomas Browne's learned and ingenious book on '*Vulgar Errors*,' published about the middle, and again at the end of the 17th century. I cannot find any allusion to the custom nor to the complaint, in that learned author's inquiries, although one might expect something on the subject in such a work as the '*Pseudodoxia Epidemica*.' In the year 1684, are recorded, in the parish register of Camberwell, Surry, the names of several persons who were touched for the king's evil; a circumstance which, Mr Lysons says, he has not observed in any other register *. But this is easily explained, when we know that a public register was kept at Whitehall of all the cases; and to this document I shall soon have occasion to refer. The practice seems to have been at its highest pitch of fashion and celebrity during the reign of Charles II. After the restoration, the multitudes of people who flocked to receive the benefits of the royal touch, were immense. King Charles the Second is said to have laid his hands upon more than six thousand persons in one year. Many of them were really diseased; more, probably, came from motives of curiosity; and not a few for the sake of the gold which was given to hang about the neck to complete the cure. It was not uncommon for them to cheat, and apply for a second ticket, when they were more desirous of obtaining the piece of gold than a cure; and complaints are made of their selling the touching-pieces, after receiving them from the king's hands, as these were often seen in the goldsmith's shops. To prevent impositions, therefore, and to give his Majesty, who had more patients than any physician in his dominions, a little respite, some restrictions were made, with regard to the times of healing, and the number of patients. All persons were obliged to go to the king's surgeon, whose duty it was to examine their certificates from the minister and church-wardens of their parish, to determine whether they were proper objects, to give them tickets for admission to the royal presence, to bring them to his Majesty, on his knee, and introduce every one to the king's sacred hand to be touched. The next persons concerned, were the clerk of his Majesty's closet, and the chaplains; the first presented the gold to the king, the other read the prayers and ceremonies appointed for this purpose; it was the business of the clerk of the closet (at that time the Right Reverend Lord Bishop of Durham), to give a receipt to the Exchequer for all the gold received to balance the privy purse. Giving the gold was a token of good will, a pledge of his Majesty's best wishes for the recovery of those who came to be healed; for we are gravely told, it was not essential to the cure, as many were healed without it, or by silver employed instead; though it is most confidently asserted, that some have been seized with the scrophulous disorders afresh, after losing their gold, and no sooner obtained a second touch, and a new bit of gold, than their complaints have been seen to vanish, '*as being afraid of his Majesty's presence.*' According to the statement of the advocates and contemporaries of this remedy, none ever failed of receiving benefit, unless their little faith and incredulity starved their merits. Some are said to have been cured immediately on the very touch, others did not so easily get rid of their swellings, until they were touched a second time. Several cases are related, of persons who had been quite blind for several weeks, and months, and obliged even to be led to Whitehall, yet recovered their sight immediately on being touched, so as to walk away without any guide; and some patients so bad, as to be brought on a bed, who at first were refused tickets, because they were deemed too loathsome to be admitted into the king's presence, were, however, allowed to come before him, and received immediate relief. Charles II. excelled all his predecessors in this ceremony; he generally appointed his day of healing after the tickets were given out, and this was usually on a Sunday. In winter, the ceremony was always held at Whitehall; in the summer, sometimes at Whitehall, sometimes at Windsor. An exact register was kept of the number of cases that came for relief, and the whole amount is almost incredible. From 1660 to 1664, inclusive, a period of five years, 23,601 persons were touched by Charles II.; from May 1667 to May 1684, the number of persons touched amounted to 68,506; making, all together, 92,107. There is no registered account for the two intervening years, 1665 and 1666; this is owing probably to the appearance of the plague, which raged violently during this period,

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* Vide Lyson's Environs of London, Vol. I. p. 81.

riod, and the king removed from the metropolis. The greatest number of cases recorded, is in the spring and fall of the year; the succession of months, in respect to the numbers stated in the monthly registers, may be taken in the following order: *April, March, November, October, February, December, September, May, January, June, July, August.* A curious paragraph and advertisement, taken from the newspapers of that period, will throw additional light on the ceremonies observed. "Saturday being ap-" pointed by his Majesty to touch such as were troubled with "the evil, a great company of poor afflicted creatures were met "together, many brought in chairs and flaskets; and being ap-" pointed by his Majesty to repair to the Banquetting-House, his "Majesty sat in a chair of state, where he stroked all that were "brought to him, and then put about each of their necks a white "ribbon, with an angel of gold on it. In this manner his Ma-" jesty stroked above six hundred; and such was his princely "patience and tenderness to the poor afflicted creatures, that "though it took up a very long time, his Majesty, who is never "weary of well-doing, was pleased to make inquiry whether "there were any more that had not yet been touched. After "prayers were ended, the Duke of Buckingham brought a towel, "and the Earl of Pembroke a bason and ewer, who, after they "had made obeisance to his Majesty, kneeled down till his Ma-" jesty had washed."—*Mercurius Politicus, June* 21—28, 1660.

"The kingdom having been for a long time troubled with the "evil, by reason of his Majesty's absence, great numbers have "lately flocked for cure. His sacred Majesty, on Monday last, "touched 250 in the Banquetting-House; among whom, when "his Majesty was delivering the gold, one shuffled himself in, "out of an hope of profit, which had not been stroked, but his "Majesty quickly discovered him, saying, This man hath not "yet been touched. His Majesty hath, for the future, appoint-" ed every Friday for the cure, at which 200, and no more, are "to be presented to him, who are first to repair to Mr Knight, "the King's surgeon, being at the Cross Guns in Russell-street, "Covent-Garden, over against the Rose Tavern, for their tick-" ets. That none might lose their labour, he thought fit to "make it known, that he will be at his home every Wednesday "and Thursday, from 2 to 6 o'clock, to attend that service; and "if any persons of quality shall send to him, he will wait upon "them at their lodgings, upon notice given to him."—*Parliamentary Journal, July* 2—9, 1660.

In *Camden's Britannia*, a proclamation is mentioned, appointing two periods for coming to James II. to be touched, from Michaelmas to Christmas, and from that to Ladyday. But the most complete and circumstantial account is furnished by a publication, entitled, "*Adenochoiradelogia ; or, an Anatomick-Chirurgical Treatise of Glandules and Strumaes, or King's-evil-swellings, together with the Royal Gift of Healing, or Cure thereof, by Contact or Imposition of Hands, performed for above* 640 *years by our Kings of England ; continued with their admirable effects and miraculous events ; and concluded with many wonderful examples of Cures by their sacred Touch. All which are succinctly described by John Browne, one of his Majesty's Chirurgeons in Ordinary, and Chirurgeon of his Majesty's Hospital.—London,* 1684."

This singular performance is divided into three separate books ; the first contains a description of the glands in general, mixed with a deal of the hypothetical jargon of that time, about ferments and humours ; the second treats of strumous or king's-evil-swellings, pointing out their supposed causes, signs, differences, and cure ; and the third, is wholly devoted to the wonderful effects of the royal gift of healing. It is entitled, *Charisma Basilicon ;* and besides the history of the gift itself, and its continued use, it contains rules for the meanest capacity to find out the disease, which were deemed expedient to prevent poor people from unnecessary journeys ; and sixty admirable cures performed with or without gold, are minutely and circumstantially detailed ; likewise several instances of scrophulous tumours and sores, which disappeared, on being touched by handkerchiefs dipped in the blood of Charles I. It is not unworthy of remark, that the author of this work bears the name so celebrated in the annals of medicine ; he mentions himself as being the sixth generation of his family who applied themselves to the medical profession, and were distinguished for their knowledge and skill. In modern times, this eminent name has been attached to a system, which, at one period, seemed to promise to its votaries as much power and influence over diseases as the *Charisma Basilicon !*

John Browne, surgeon to King Charles II. appears to have been a man of established character, and high reputation in his profession ; his book is approved by the President and fellows of the College of Physicians, and the most eminent surgeons of his day. He seems to have been warmly attached to his sovereign, as he suffers no opportunity to escape without saying something in favour of the divine right of kings ; and he is violent in his outcry against dissenters and disloyal subjects ; " with any of the canting tribe (he says), I hope this treatise will never get favour." During the two years of his exile, the King used to touch at different places where he was staying, and Browne relates several remarkable instances of cures performed by him during the troubles, as well as after the restoration; and he confidently asserts, that the usurper *Cromwell* tried in vain to exercise this royal prerogative, "he having no more right to the healing power than he had to the regal jurisdiction." There was a Scotch merchant, who made it his business, every spring and fall, to bring people from Scotland and Newcastle, troubled with the evil, to the king, wherever he was, during the political troubles of his kingdom, as at Brussels, Breda, Bruges, Antwerp, and the like; and, before his return, he acquainted the surgeon in ordinary how those persons were which he carried back with him, after being touched. The most interesting part of Browne's work is the copy of the register, shewing the number of persons in each month, for a period of 21 years. I shall select the two years distinguished for the largest and the smallest number of persons whose cases are registered, from "An account of persons touched by his most sacred Majesty King Charles the Second, for the cure of the king's-evil, from May 1667 to May 1682, taken from a book or register thereof, kept by Mr Thomas Donkley, keeper of his Majesties closet, belonging to his Majesties royal chappel."

| 1669. | | 1682. | |
|---|---|---|---|
| *Months.* | *No. of Persons.* | *Months.* | *No. of Persons.* |
| May | 178 | May | 260 |
| June | 31 | June | 339 |
| July | 40 | July | 106 |
| August | 13 | August | 49 |
| September | 53 | September | 1027 |
| October | — | October | 221 |
| November | 512 | November | 1371 |
| December | 205 | December | 815 |
| January | — | January | 4 |
| February | 131 | February | 1594 |
| March | 819 | March | 220 |
| April | 1001 | April | 2471 |
| | 2983 | | 8577 |

Notwithstanding the numbers who had been touched and healed by his sacred Majesty after his restoration were so great, as to amount to a considerable proportion of the whole nation, yet upon any new declaration of a fresh healing, they were again as fast, as if no one had ever applied before. "A thing (says Browne) as monstrous as strange!" This proves, that the touch did not always succeed; it could not at any rate prevent a relapse; and it is confessed, "that although it did not always answer expectation, yet its effects were wonderful, and its cure most frequent, as is, and hath been sufficiently and satisfactorily demonstrated.

strated. To add any more evidence to what has been already adduced, is almost unnecessary, yet I cannot withhold the testimony of *Wiseman*, an author of credit, and of a standard work in surgery. One of his surgical treatises is written expressly upon the king's-evil, and he there speaks of the royal touch in the following strong terms: "I myself have been a frequent eye-witness of many hundreds of cures performed by his Majesty's touch alone, without any assistance of chirurgery; and those, many of them such as had tired out the endeavours of able chirurgeons before they came thither. It were endless to recite what I myself have seen, and what I have received acknowledgements of by letter, not only from the several parts of this nation, but also from Ireland, Scotland, Jersey, and Germany."—Wiseman's Surgery. So much for the history of the royal touch. I think it a remnant of superstition worth preserving, and therefore, I have given a more minute detail than might seem requisite, because I know of no such historical singularity on record. The reflections suggested by an inquiry into this subject, I shall reserve for another occasion. R.

# PART II.

## CRITICAL ANALYSIS.

### I.

*The Natural History of the Human Teeth, including a particular elucidation of the Changes which take place during the Second Dentition; and describing the proper Mode of Treatment, to prevent irregularities of the Teeth. To which is added, an Account of the Diseases which affect Children during the First Dentition. Illustrated with Thirteen Copperplates.* By JOSEPH FOX, Member of the Royal College of Surgeons, London, and of the Society of Medicine Paris. 4to. pp. 100. London, 1803.

*The History and Treatment of the Diseases of the Teeth, the Gums, and the Alveolar Processes, with the Operations which they respectively require. To which are added, Observations on other Diseases of the Mouth, and on the Mode of Fixing Artificial Teeth. Illustrated with Copperplates.* By JOSEPH FOX, Member of the Royal College of Surgeons; and Lecturer on the Structure and Diseases of the Teeth, at Guy's Hospital, London. 4to. pp. 170. London, 1806.

THESE volumes are the production of a surgeon-dentist of great reputation, and extensive practice, who writes with the ease and confidence of a man intimately acquainted with his subject. In the first volume, Mr Fox records, with perspicuity, the knowledge which we now possess of the structure and formation of the teeth. For the principal facts connected with the natural history of the human teeth, we are almost entirely indebted to the successful inquiries of Mr Hunter and Dr Blake; and to these, we cannot say that any important addition has been made by Mr Fox. In this department, we are to regard him as an historian only; nor does there appear, on his own part, any high pretension to novelty or discovery. In opposition, however, to Mr Hunter, he maintains the vitality of the teeth, and asserts their connexion with the general circulation. A large quantity of blood, it is observed, is distributed to the teeth; as age advances, and the vessels become gradually destroyed, the teeth lose their splendour and whiteness; and when the circulation is completely obstructed, they become yellow, more brittle, and acquire a horny transparency; and like changes are observed in those teeth which have been prematurely loosened by a blow destroying their vessels. The diseases, also, to which the teeth are liable, and indeed every analogy, support the opinion of their vitality, and of their connexion with the general system by the circulation of blood.

Mr Fox also, more successful in his injections than either Mr Hunter or Dr Blake, corrects an error into which both these gentlemen had fallen, respecting the vascularity of the membranes by which the pulps are enveloped. "When a jaw has been minutely injected, we find that the pulps are vascular, and also the membranes by which they are enveloped. These membranes may, with care, be separated into two lamellæ, the external of which is rather of a loose and spongy texture, and possessed of vascularity; the internal lamella is more smooth, and also vascular: The membranes derive their vessels from the gums; and the pulps receive their's from the artery which passes through the jaw. Some preparations, in the injection of which I have very happily succeeded, fully warrant the above statement, in all its variations from those of Mr Hunter and Dr Blake." "Mr Hunter observes, that the external membrane is soft and spongy, without vessels, the other much firmer, and extremely vascular. Dr Blake says, they (the membranes) can easily be separated into two lamellæ, the external of which is spongy and full of vessels; the internal one is more tender and delicate, and seems to contain no vessels capable of conveying red blood." "In several preparations which are minutely injected, taken from the human subject, and also from the fœtal calf, I have found both the lamellæ to be very vascular."

It is chiefly, however, in the application of our acquaintance with the processes of nature in the formation and shedding of the teeth, to objects of practical utility, that we are to estimate the importance of this work. Mr Fox, in this department, appears quite at home. His observations, on irregularities of the teeth, and on the means of preventing and obviating these irregularities, are plain and satisfactory, and appear equally congruous to principle and experience.

The permanent teeth derive their origin from the temporary. At an early period, new sacs or processes are given out from the upper and posterior part of the membranes of the fœtal teeth, and these processes are the rudiments of the corresponding permanent teeth. The second molaris, which has no corresponding temporary tooth, is, in like manner, produced from the first, and the third from the second. When the temporary teeth are more advanced, the membranes of both sets still continue connected, although the temporary and permanent have acquired distinct sockets. As the temporary teeth rise in their sockets, the membranes of the permanent ones are elongated, and through small foramina, preserved in the jaw, maintain their connexion with the gums. Thus, when all the temporary teeth have made their appearance, their successors are preparing within the jaw, and advancing to perfection, so that, "at about six years of age, those teeth designed to succeed the temporary ones, and the first and second molares, are in considerable forwardness; and if none of the temporary teeth have been yet removed, there are, at this time, in the head, forty-eight teeth, twenty *in situ;* and within the jaws, beneath the gums, in the progress of formation, twenty-eight." The new teeth are placed behind the temporary ones; they occupy, therefore, the segment of a smaller circle, and are, consequently, very much crowded. They have, however, to take the place of the temporary ones, behind which they lie, and from which they are separated by the bony partitions which divide their sockets. The process by which nature effects this, is by the absorption of the fangs of the old teeth, to facilitate their shedding, and of the septa separating the sockets of the temporary and permanent teeth, that the latter may advance and occupy the deserted places of the former. This process, however, is liable to be disturbed; and the permanent teeth prevented from advancing forward, rise irregularly, and thus occasion much deformity and inconvenience.

The circumstances to which these irregularities may be referred, are, according to Mr Fox, a want of simultaneous action, between the increase of the permanent, and the decrease of the temporary ones, by the absorption of their fangs, on which account the new tooth takes an improper direction, and generally comes through on the inside; resistance made by the nearest temporary teeth, the space left by the shedded tooth being too small for the regular position of the larger permanent tooth, it is exposed to the pressure of the next tooth, and turned out of its regular direction; the jaws not being sufficiently extended, the permanent teeth are too large for the space occupied by the temporary ones. It is to be recollected, that the part of the jaw occupied by the temporary teeth, generally grows but little, the extension of the jaws being from the second temporary molares backwards.

"When a child is about to shed its teeth, the first permanent molares come through the gums behind the temporary molares; and therefore the teeth which are situated anteriorly to the permanent molares, can obtain no additional space.

"The permanent incisores occupy the space of the temporary incisores, and half of that of the cuspidati. It commonly happens, that the bicuspides are earlier in their appearance than the cuspidati; therefore, when the first temporary molares are shed, a little room is gained, as the teeth which succeed them are smaller. When the second molares are shed, still more room is gained; the two bicuspides go back against the first permanent molares, and thereby give sufficient room for the cuspidati. Thus, by the change of the molares of the child, which are large, for the bicuspides of the adult, which are small, room is obtained for the increased size of the permanent incisores and cuspidati."

The method of preventing these irregularities, and of remedying them, when the teeth have been allowed to rise irregularly, is founded on a knowledge of these circumstances, and consists, in general, in the removal of those temporary teeth, the presence of which obstruct the advancement and regular position of the new; and in the extraction of one or more permanent teeth, where the irregularity is occasioned by the teeth being much too large for the space allotted them. The practice adapted to every particular case, is fully and distinctly pointed out by Mr Fox.

The chapter of the diseases which attend dentition, though too desultory and general, contains some judicious observations on the treatment of those diseases to which children about that time of life are liable. The diseases referred by Mr Fox to this head are, fever, eruptions, convulsions, and diarrhœa. The irritation, from which these complaints of infancy proceed, is referred to distension of the membrane, and pressure upon the pulp, nerves, and vessels, at the bottom of the socket, rather than to the gum; and in this opinion, we are happy to express our agreement with Mr Fox. The pressure and distention are relieved by the division of the gum which confines the tooth. The propriety, therefore, of lancing the gums, in diseases occurring with difficult dentition, is obvious. It is not, indeed, always so clear, that the existing disease originates from dentition; but this, when difficult and protracted, is a source of additional irritation, which ought to be removed. We are not to expect, in every case, an immediate effect from this operation, nor from it alone, a cure of the disease. Our own experience is, upon the whole, favourable to the practice of scarifying; but we have seldom, except in mere local irritations, seen any very sudden good effects from it, although we have often been satisfied that the disease, for which we had performed the operation, became afterwards more tractable. We are of opinion, therefore, that Mr Fox holds out too great encouragement in the following passage: "Under every circumstance of indisposition arising from dentition, the lancing of the gums ought never to be omitted. The benefit which attends the operation is *so sudden*, and, if performed sufficiently early, is *so certain*, that it ought never to be neglected. As soon as the gum is lanced, and the membrane is divided, the tooth obtains an increase of room, the pressure is immediately taken off from the socket, and the cause of irritation is removed."

When a tooth, however, is evidently confined by the gum, we believe the practice is always innocent and safe, and often advantageous. In reply to objections, we content ourselves with the following short quotation from our author.

"It is very surprising that, notwithstanding the manifest advantage which attends the lancing of the gums, in cases of painful dentition, there are persons who entertain strange prejudices against this safe and important source of relief. But the uniform experience of its good effects, and no instance of its doing harm ever having occurred, should produce an unanimous consent for adopting it. Some persons object to the operation, on account of the pain which it will occasion to the child, not considering that the inflammation produced by the resistance of the gum to the tooth, is far more acute than dividing the gum with a sharp instrument. Others suppose that the formation of the teeth is injured, and that they are more liable to decay; but neither of these circumstances can occur; for at the time the tooth is about to pass through, the enamel is completely formed, and no injury can be done to the formation of the fang, which is always continued for some time after the appearance of the crown.

"When it is necessary to lance the gums sometime before the teeth are quite ready to appear, they unite, and in this case the cicatrix has been said to impede the progress of the tooth, presenting a greater resistance than the gums in their natural state; but it is now certainly known that a newly formed part always gives way sooner to the process of absorption than the surrounding parts, and hence the passage of the tooth is facilitated.

"The hemorrhage which is occasioned by the operation is never considerable, but is always beneficial; the vessels become unloaded, and the inflammation is always soon diminished."

We now turn to the second volume, in which Mr Fox treats of the diseases of the teeth, gums, and alveolar processes, and of the operations of the dentist. The diseases comprehended under the first of these heads are, caries, exostosis of the fangs, necrosis affecting the teeth, diseases resembling spina ventosa, removal of the enamel by the denuding process, the wearing of the teeth by mastication, and fractures of the teeth. Agreeably to the opinion that the teeth are organized in a similar manner to other bones, Mr Fox is in general fortunate in his explanation of those changes to which they are liable from disease.

The most common, though perhaps not the most intelligible of these diseases, is caries, and its consequence, toothach. Its progress in all its steps is described with great minuteness. Its origin is generally in the bony part of the crown, under the enamel, which, according to Mr Fox, gives way consequently, only from want of support, while the caries advances internally, till the whole of the crown, downwards to the fangs, has been destroyed. With regard to the cause of caries, he observes, that the subject has not been properly explained, from the structure of the teeth not having been duly considered. Mr Hunter says, "it does not arise from external injury, or from menstrua, which have a power of dissolving part of a tooth ; but we may reasonably suppose, that it is a disease arising originally in the tooth itself." Yet although he went thus far, he never formed a more correct idea of the manner in which the disease must originate.

"The proximate cause of caries, (continues Mr Fox), appears to be an inflammation in the bone of the crown of the tooth, which, on account of its peculiar structure, terminates in mortification.

"The membrane which is contained within the cavity of a tooth is very vascular, and possesses a high degree of nervous sensibility : an inflammation of this membrane is liable to be occasioned by any excitement which produces irregular action ; and as the bone of the tooth is very dense, and possesses little living power, a death of some part of it may speedily follow an inflammation of the vessels of the membrane which are contained within the cavity."

Now we will not stop to inquire, whether this be a more correct idea than that of Mr Hunter, because, we believe, we may form a correct idea of what is not true in fact. The principal question is, if this theory be adequate to an explanation of the disease, and consistent with the phenomena ? We perceive how inflammation of a vascular and highly sensible membrane may be followed by the death of some part of the bone of the tooth connected with it, and by consequent caries. But it is certain, that in by far the greater number of cases, the commencement and progress of caries is silent, and that inflammation and pain are seldom perceived till the cavity of the tooth has been laid open by the destruction of part of the crown and enamel. The case quoted by Mr Fox, so far from supporting the theory, shews that the effects of inflammation of the membrane of a sound tooth are very different. There was no appearance of caries, but the cavity of the tooth was filled with pus. Mr Fox is firmly persuaded, that a tooth already carious will infect the neighbouring teeth ; and therefore advises its removal, that the others may escape the disease. In the case of communicated caries, the disease "commences on the surface, and extends to the cavity." It is even asserted, as a general rule, "that caries in one tooth will produce disease in that which is contiguous;" and that not only the timely removal of the carious tooth will save the others endangered, but that the filing or rasping off the carious portion will give the same security, and often arrest its progress in the diseased tooth itself, circumstances which do not seem to enter easily into the theory. Indeed, the practice of Mr Fox, and we believe of other dentists, is at constant variance with this theory of caries; it proceeds on the acknowledgment of external causes, and the progress of caries from without inwards; and consists in rasping, filing, and drilling away the carious portions, and in the artificial filling and stuffing up the exposed cavity of the tooth. Caries consists in the decomposition of the bony substance of a tooth, preceded probably by the death of that part, the consequence perhaps "of disease arising originally in the tooth itself." But the more extended, if not more correct theory of Mr Fox, that it is the consequence of inflammation of the membrane, contained within the cavity of a tooth, which is very vascular, and possesses a high degree of nervous sensibility, is not proved to our satisfaction. We think Mr Fox has been more happily employed in the investigation of the remote causes of caries. These, and all his practical observations, are well deserving the reader's attention. We must, however, stop to remark an inconsistency in this part of Mr Fox's narrative. In one part (p. 17.) we are told, and we believe justly, that decay of the teeth is often the consequence of certain states of the constitution; that it is characteristic of certain families; and is often observed as the consequence of some previous disease, particularly of continued fever: Soon after, however, and almost in the same breath, he observes, "the decay of the teeth, as far as I have been able to judge, does not appear to be peculiar to any age, temperament, or state of health." (p. 23.)

The symptoms and treatment of toothach are next described. In speaking of sympathetic pains, proceeding from diseased teeth, some notice is taken of that disease of the nerves, called *tic douloureux*. The following case deserves to be quoted.

"An elderly gentleman applied to me for the purpose of having some stumps extracted from the upper jaw, stating, that he suffered considerable pain from them; without further inquiry, I performed the operation. Two days afterwards, he came to me again, and expressed a wish that I would extract the teeth which were remaining on that side of the upper jaw. The teeth to which he directed my attention were two molares, both of which appeared to be perfectly sound. I then inquired what his particular kind of pain was: he described it as a pain which had come on at intervals, for nearly two or three months past; at first it was slight, but had gradually arisen to such a degree of acuteness, as almost to cause

fainting;

fainting; whilst he sat still he was easy; but, if he spoke quickly, or ate any thing which required mastication, or walked hastily, or was shaken by riding in a carriage, the pain returned, shooting through his cheek, and affecting his teeth and all the side of his face, as if he had received an electric shock. I had the opportunity of seeing him during two or three of these painful attacks. Whilst he was relating to me the above statement, he was seized with so much pain, that he suddenly stopped, and the water streamed from his eyes. On comparing his description with what I then saw, I immediately conceived that his complaint was caused by a disease of the suborbitar branch of the fifth pair of nerves, and offered to accompany him to Mr Astley Cooper, in order to take his opinion. As I went with him in the coach, one sudden jolt caused another attack. Mr Cooper, after having heard the above statement, concurred in the opinion I had given, but was more particularly confirmed in it, by producing another attack by only rubbing the hair of his beard contrary to its natural direction.

"The gentleman assented to the operation, which Mr Cooper performed immediately. The nerve was completely divided, as the power of raising that side of the lip ceased, and it remained as in a state of paralysis. The wound healed in a few days; after which, the pain entirely left him, he could eat with comfort, and take exercise without fear. His joy was so great at the deliverance which he had experienced from so much suffering, that he could not afterwards speak of it without shedding tears."

The diseases of the gums are, gum-boils, scurvy in the gums, and preternatural growths. Gum-boils are abscesses depending commonly on suppuration in the socket and membrane of the fangs of carious teeth. They should be early opened, to prevent the extension of the abscess to the cheek and jaw-bone.. A permanent cure can only be obtained by the extraction of the tooth. The neglect of this operation is often followed by very distressing accidents, sometimes by the exfoliation of the alveolar processes and jaw-bone.

What has been called scurvy in the gums, is a very common, and, according to our observation, a very untractable complaint. The gums become tender and spongy, and liable to bleed on the slightest irritation. In the progress of the complaint, matter is discharged from between them and the necks of the teeth. The alveolar processes become affected and destroyed, and the teeth loosen and drop out.

The practice recommended in the commencement of the disease is, to relieve the fulness of the gums by scarification with the lancet, which should be frequently repeated, whenever the gums become again turgid. Bleeding by leeches is also attended with the best effects. Astringent lotions are at the same time to be employed. Great benefit is derived from sea water, used as a wash for the gums, and it is much recommended by Mr Fox.

When the edges of the gum hang loosely about the necks of the teeth, much good, he says, will be derived from the use of the *argentum nitratum* in solution.

"If the disease be only partial, the caustic should be applied with a camel's hair pencil, dipped in the solution. This remedy appears to communicate a new action to the gums, and they generally get well in a short time. Indeed, whenever the gums are very full, and discharge a good deal of offensive matter, washing the mouth with a solution of lunar caustic, is a very excellent remedy for rendering the mouth sweet and comfortable.

"When this is applied to the sore edges of the gums with the hair pencil, it may be used as strong as in the proportion of a drachm to an ounce of water; but if the mouth be rinsed with it, it ought not to exceed the proportion of one grain to two ounces of water; because, if it get into the fauces, it is liable to produce an unpleasant nausea."

The cases of preternatural growth of the gums, noticed by our author, are soft, spongy, fungous tumours, or enlargements of the gums over stumps, and which are generally cured by the extraction of the stumps over which they have been formed; former tumours, arising from the gums, unconnected with diseased teeth, or other evident cause; their removal by the knife is often followed by hemorrhages, requiring the application of the actual cautery; their removal by ligature, is therefore recommended by Mr Fox; fungous tumours of the gums, connected with a diseased state of the jaw-bone, can only be cured by the removal of such disease.

"Besides these various affections of the gums, they are subject to diseased appearances, symptomatic of constitutional disease. Children of scrophulous habits are more particularly liable to a spongy state of the gums, accompanied with great fetor of the breath; they become ulcerated, so as to cause the fangs of the teeth to be exposed. I have seen this proceed to such a degree, as even to lay bare the alveolar processes: this disease being in children, the teeth which are thus affected, are only the temporary teeth, and therefore, the removal of these is not attended with any permanent disadvantage. I have always considered it right, whenever any ulceration has taken place about the gums of children, to extract the teeth; and I have usually found that this plan has completely arrested the progress of the disease."

The alveolar processes are often interested in the diseases of the teeth, and affected by them. They are subject also to diseases terminating in their destruction, without the teeth having been primarily affected. They are liable to a gradual absorption of their substance, whereby the teeth are loosened and drop out; and to a different disease from this, by which the sockets are filled up, or contracted at their bottom. Having delivered some useful observations on these diseases of the alveolar processes, on the tartar of the teeth, the effects of mercury on the teeth, the diseases of the antrum maxillare, and on artificial teeth, Mr Fox proceeds to describe the manner of performing various operations upon the teeth. These, in all larger towns, fall now to the department of the professed dentist. The descriptions of Mr Fox, however, may prove useful to those surgeons who, from their situation, are occasionally called upon to operate on the teeth. But his observations on the extraction of the teeth are particularly deserving the notice of every operator. A short account of the luxation of the lower jaw concludes the work. In the reduction of this luxation, Mr Fox recommends the use of a small wooden lever, formerly suggested and employed by Dr Simpson of St Andrews, to depress the luxated angle of the jaw. It is introduced between the posterior grinders of the luxated side, and, by raising the other end of the lever held in the hand, the teeth of the upper jaw become the fulcrum, the lower jaw is depressed, and the condyle made to pass into its socket.

The plates which accompany these volumes are extremely beautiful, and do much credit to the artist. That the subjects treated of by Mr Fox are also very happily illustrated by these engravings cannot be denied; but, while they add to the splendour of the work, they tax it also with a price which, we fear, will limit the sphere of its usefulness.

## II.

*Infantis Androgyni Historia et Ichnographia. Accedunt de Sexu et Generatione Disquisitiones Physiologicæ, et Tabulæ V. aeri incisæ.* Auctore Jacobo Fidele Ackermann, Philosoph. et Medic. Doctore, Serenissimo Duci Saxo-Venariensi et Isenacensi a Consiliis Aulæ Secretioribus, modo in Academia Jenensi Anatomes et Chirurgiæ, mox in Universitate Heidelbergensi Anatomes et Physiologiæ Professore Publico Ordinario. Jenæ, 1805. Folio, pp. 112.

An example of such monstrous organization as occurred in the child whose history is now before us, might probably, in this country, have furnished subject for a paper in some periodical work, or miscellaneous collection. In spite of the chilling physiognomy, however, of a Latin folio, we cannot regret that a more laborious course of investigation has been pursued by Professor Ackermann. We are not presented with a monster for stupid wonder to gaze at; but with a history, at once complete and satisfactory, of those singular deviations of nature in the structure of the sexual organs, which have been the subjects, at one time, of fable and superstitious credulity, of uncertainty and scepticism at another. It is interwoven, indeed, with speculations of a more airy nature, in which Dr Ackermann has indulged himself in his physiological disquisitions on generation, but they are not necessarily dependent on each other. It shall be our business carefully to separate these, and assign them their respective ranks. There is a strong propensity in our author to find an explanation of every difficulty; and, where fact and observation fail him, to indulge his imagination with great freedom. Whether or not any physical necessity might be discovered, by an acute observer, for this roving of the Professor's imagination, can only be determined after his death; but there is a hint in the very opening of his book, which may satisfy those who are not very difficult as to this point. The imagination, it is well known, has at all times been apt to run wild on subjects connected with the sexual functions. Poets, sculptors, and painters have, in every age, cultivated this field with the most voluptuous license. This incessant itching of the imagination deserved some explanation, and Dr Ackermann explains it very readily, "Nervum, qui organis genitalibus prospicit, eundem esse, qui vi imaginationis movetur, et vice versa, eundem in peripheria lacessitum phantasiæ in encephalo organon afficere novit physicus."

There is no one who now believes in the existence of a true hermaphrodite, of an individual possessing the organs and functions of both sexes: The common opinion is, that all the supposed individuals of this description were perfect females, in whom the clitoris was immoderately large, or males, in whom a defective urethra terminated in the perineum under the penis. Although, however, there is no authenticated example on record of a complete conjunction of male and female organs in one individual, there are many, where the imagined admixture, and combination of some of these organs, and the imperfect developement of others, have been thought such as to render it very doubtful to which sex the individuals really belonged, or to determine the predominacy of either sex. Such unfortunate individuals, so far from enjoying the functions of both sexes, are competent to the functions of neither.

*Concretus sexu, sed non perfectus utroque*
*Ambiguæ veneris, neutro potiundus amore.*

In the first section of his book, Dr Ackermann gives an analytical account of hermaphrodites described by different authors. It contains thirty-five distinct histories. The second section is allotted to the history of the case which was the subject of the author's personal observation. His physiological dissertations, De Sexu et Generatione, are arranged in the third section, under different heads or chapters, and contain observations, often ingenious, sometimes whimsically hypothetical, on the sexual organs and functions. The fourth and last section, entitled Ichnographia, contains the explanation of the plates, five in number, exhibiting views of the external and internal sexual organs of the androgyne, the description of which is more fully given in the second section. We shall begin by extracting the most remarkable particulars of this history.

The child was born at Menz, on the 14th June 1803, and died on the 25th of the month following. Considered as a male, he was baptized by the name of Nicholas. The first suspicion of ambiguous sex was suggested, on observing that the urine, instead of passing by the yard, was discharged through a chink below, in the perineum. The surgeon who was called in, not doubting that he had seen an hermaphrodite, communicated the intelligence to Ackermann, and requested him to visit the child next day. He had thus an opportunity of examining the external organs, and of ascertaining their singular conformation during the life of the child; and as he was fortunate enough to procure the body after its death, he was enabled also to examine the internal organs, and minutely to dissect, prepare, and describe the whole. The penis, which, from its imperfect developement, he calls cliteroid, was a little more than an inch in length; the glans was distinct, about one third of the whole length, but imperforated; there was, however, a mark or depression where the urethra should have opened. The prepuce, rugose and retracted, covered half the upper portion of the glans only, but diverging laterally downwards, towards the scrotum or labia, with which it seemed continuous, left the lower portion of the glans uncovered, thus resembling the prepuce of a clitoris which descends laterally towards, and becomes continuous with the nymphæ.

On raising upwards this cliteroid penis, there was observed under it, and between the crura præputii, an opening or rimula, about one third of an inch long, and bounded by a rounded angle, at the distance of an inch from the anus. It was bordered by a firm cutaneous elevation, as if the *raphe perinæi* were carried round it; this, however, bore but little resemblance to nymphæ. This rimula was the orifice of a canal, to which he has given the name of *vagina urethralis*. It was about an inch in length, and somewhat dilated beyond its orifice. The uterus and urethra opened into the posterior part of this canal; the orifice of the uterus was situated a little before and under the orifice of the urethra, so that, says Ackermann, the urine, in passing through the vaginal canal, must have flowed over the *orificium uteri*. The *vagina urethralis* was lined with a fine mucous membrane, and studded with muciparous cryptæ.

The *labia scrotalia*, as they are here called, resembled most the male scrotum, but had some characters also of the female labia. They contained the testicles, with their tunicæ vaginales. But above the pubes there was a remarkable duplicature of the integuments, emulating, in appearance, the female mons veneris, which surrounded the root of the penis, and was continued to the prepuce. This, diverging on each side, run into the scrotal labia, while lesser folds of the same seemed lost in the cutaneous margin of the vagina urethralis, from the inferior angle of which the raphe scroti commenced, and was continued downwards.

With regard to the internal organs, the urinary bladder occupied its usual place; its short urethra terminated in the posterior part of the vagina urethralis. Of the testicles, one had descended into the scrotum, the other had advanced no farther than the groin; both were perfect, and were furnished with their usual coats, epididymides, and vessels secretory and excretory. The vasa deferentia were injected with quicksilver; and their course towards their openings in the vagina urethralis ascertained.

In the place usually occupied by the female uterus, there was found an organ closely resembling it. It differed from the perfect uterus, says our author, chiefly in the finer and thinner texture of its coats, and greater capacity of its cavity. In these respects, and its form, it more resembled the gravid than the unimpregnated uterus. Its figure was pyriform; and it opened, by a round orifice, into the vagina urethralis, a little before the orifice of the urethra. The cavity of this organ, which he calls *uterus cystoides*, was lined with a fine rugose membrane, which appeared to be a continuation of the mucous membrane of the vagina urethralis. Like the uterus, it was connected to the sides of the pelvis by duplicatures of the peritoneum, resembling the ligamenta lata.

The vasa deferentia, after passing through the abdominal rings, sweeped over the pubis and bladder, and entered the duplicatures of the ligamenta lata. Just before entering the ligamenta lata, each vas deferens formed a number of convolutions, conglomerated into a mass resembling the vesicula seminalis. Conducted now towards the angles of the uterus by the ligamenta lata, the vasa deferentia penetrated its substance at the points where the

Fallopian tubes are usually placed; but without opening here, they passed still on, under the internal membrane of the uterus, towards the cervix and orificium uteri, and at length emerging, terminated, by very small orifices, in the vagina urethralis, by the side of the uterine orifice, that is, a little before the mouth of the urethra. From the manner in which these orifices and that of the urethra terminate, an appearance like the verumontanum is given to this part of the vagina urethralis.

When we turn to the history of other supposed hermaphrodites, we find that the most remarkable very closely resemble this one which fell under the observation of Ackermann. Such were those described by Walter, Diemerbroeck, Grashius, Cheselden, Morand, and a great many others; in all of which there were observed, an imperforated penis, a vagina urethralis, testicles, and cystoid uterus, or something mistaken for the uterus. In Petit's case, the testicles had never left the abdomen; and occupying nearly the site of the ovaria, a less careful observer might have mistaken them. A mistake, perhaps of this kind, was made by Sue, in the description of such a monster: a testicle is said to have been found in one side, and an ovarium in the other. But the example is solitary; and, from the history of all the others, therefore, more than doubtful. We may regard these, then, as the greatest deviations from the perfect male structure: but from the perfect structure, to the highest degree of deviation, there are intermediate varieties;—in some, the glans is simply imperforated, the urethra terminating under it; in others, the urethra opens about the middle of the yard, with a wide and gaping orifice; or the urethra forms but half a canal, and opens under the penis; and these, says our author, form the first degrees of aphroditism. Deviating still farther from the natural structure, the urine is passed through an opening in the perineum; the penis is imperfect; the scrotum is divided; a fissure like the vagina presents itself: the appearances become more and more ambiguous, and the characters of the sex become nearly lost, till we arrive at the highest degree of aphroditism hitherto ascertained with certainty; such a one as has just been described. There is not, however, any example of complete hermaphroditism: and all the organs of both sexes, there is reason to believe, were never found united in one human individual. In the two sexes, there are organs which correspond to each other, and which may be called analogous organs, the penis to the clitoris, the scrotum to the labia, the testes to the ovaria, and the prostate to the uterus; and it farther appears, that of these analogous organs, no two were ever found together in the same individual. No monster has been described, having both a penis and clitoris, nor with a testis and ovarium of the same side, we may venture to say, with testes and ovaria, nor one having a prostate and uterus. But we find such wonderful deviations in the structure of these organs, such malconformations, that their character becomes ambiguous, and the sexual distinction almost lost. We find shortened, divided, and imperforated penes, the urethra terminating in a canal, opening by a fissure between the crura penis in the perineum, the scrotum divided so as to resemble labia, the testicles perhaps remaining within the abdomen, and their organization imperfectly developed. We will venture still farther, and call in question the existence of any organ of one sex, whether analogous or not, having ever been found in the same individual, with other organs of another sex. We do not think that the organ described as the uterus, and said to have been found, in so many examples, along with a penis and testicles, in the same individual, militates against this position. It appears to us, that this supposed uterus was, in all such cases, nothing more than a malconformation of the prostate: for, first, the prostate and uterus are correspondent or analogous organs; and it is allowed, they have never been found to exist together in the same individual, however complete the aphroditism may have been in other respects. And, secondly, wherever this uterus has been carefully described, its deviation from the real structure and organization of the uterus appears to have been so great, and its affinity to the prostate so much more natural, that it seems more agreeable to the analogy of the other co-existing deformities, to refer it to the latter than to the former organ: for example, in Ackermann's androgyne, all the other organs, however varied and malconformed, were male, the only organ of this sex deficient was the prostate, and in its place there was found a sac, which he has chosen to call uterus cystoides, and to consider as an imperfectly formed uterus. It resembled the uterus in being a hollow organ, and in being found between the rectum and bladder. It differed from it in the thinness of its texture, and its large cavity. It was not, like the infant uterus, a firm and compact organ, but a sac: but it differed from the uterus still more in its appendages; the Fallopian tubes were altogether wanting, even the vasa deferentia did not terminate in the angles of its fundus. It differed from the natural structure of the prostate, indeed, in being dilated into the form of a sac: but it resembled it in situation and connexion, and still more in its appendages. The vasa deferentia penetrated its substance; and continuing their course through it, opened, with it, on the verumontanum, in the urethra. This affords a strong presumption that this cyst, mistaken for an uterus, was, in fact, a malconformed prostate. The proof rises almost to certainty,

tainty, when we reflect on the general analogy, and recollect that the prostate is the only male organ not accounted for in this history. The case becomes still clearer when we examine Petit's history. In this, the uterus is acknowledged hardly to have deserved the name, so much did its structure differ from that of the female uterus: that it was in truth the prostate, appears evidently from its situation, and from its connexion, not only with the bladder, but with the vasa deferentia, and vesiculæ seminales.

If our opinion be correct, much of the *mirabile dictu* is removed, from the history of these still very curious deviations from the usual course of nature. In another very curious aberration of nature, in the hernia of the urinary bladder, there are also observed such singular malconformations of the genital organs, that the unfortunate subjects of this lusus have been branded with the suppositious name of hermaphrodite. Yet in these, as appears from the excellent analysis of these cases of deficiency of the bladder, in the first volume of this journal, all the organs of one sex only, however malconformed, are recognizable. And in that variety of malconformation, the subject of our present inquiry, we think we have been able to recognize only one system of sexual organs, however much disguised by the sportive hand of nature. While stating our own opinion on this subject, we have lost sight of our author, of whose theory we now proceed to give a short account. The fundamental proposition of this theory is, that the germ, at its first formation, is of no sex; or rather, that the rudiments of the organs of both sexes, exist in each individual, when first generated in the uterus. The next is, that those of the one or the other sex become afterwards developed, according to the predominant influence of certain powers, called formative, coagulating, or plastic. If the coagulating productive plastic powers prevail, the child is born a male; if the power of organic matter has had the advantage, a female is produced. The predominacy of these powers, is shewn in the one sex in the greater activity of the vascular system; the organic matter is manifested in the greater developement of the cellular substance in the other. The penis and clitoris, the scrotum and labia, the testes and ovaria, the prostate and uterus, the vasa deferentia and Fallopian tubes, are thus analogous, and produced from the same rudimental organs. The greater vascular activity of the male elongates, and forms into a penis, what in the female would have been a clitoris. The predominance of the cellular texture in the female, forms an uterus of what, in the male, would have turned out a prostate. The vascular power of the male forms testes of those organs, which the female would have formed into ovaria; and so on, with other corresponding organs. The male or female organs being thus formed from common rudiments, and moulded into the perfect forms of either sex, from the predominant operation of external powers, during the uterine life of the fœtus; it happens in rare instances, that the sex is imperfectly determined, some of the organs are developed with the male character sufficiently pronounced, while others have an ambiguous resemblance to the female. The penis has some resemblance to the clitoris, the urethra not being sufficiently elongated, stops at the perineum, which, with the scrotum, is cleft; the testicles and vasa deferentia are perfected, determining the predominant sex of the androgyne; but an exuberance of cellular texture, and defect of plastic power, have produced an uterus.

So full is our author of this theory, of which we have endeavoured to lay a brief statement before our readers, that he does not doubt the possibility of the existence of some perfect female organs, with other perfect male organs in the same individual, an uterus with testicles, or even an ovarium in one side and a testicle in the other: He even admits the possibility of conception taking place in the body of such an aphrodite; and would fain persuade us, that such had been the origin of the fœtus, found in the duplicature of the colon of a young man, Amidée Bissieu, of whose case a report was presented by Dupuytrin to the Medical Society of Paris, and published in the *Bulletin de l'Ecole de Medecine*, although it is expressly stated in the report, that Bissieu "was provided with male organs only, without the smallest trace of those of the other sex *."

A still bolder flight, however, is taken by Dr Ackermann, in the outset of his physiological dissertations on generation. To his organic and formative powers, he has there given an habitation and a name; they are no longer general terms, but palpable individuals.

The organic matter is furnished by the female; it is capable of coagulation, crystallization, and organization, by the oxygenating principle supplied by the male. The female matter contains an excess of hydrocarbonate; the male of oxygen. They meet in the uterus, saturate each other, and produce an embryo. "Hydrocarbonii oxys oriatur, et cum eo in puncto indifferentiæ virium simul novus embryo nascatur." Man, endowed with larger respiratory organs, abounds in oxygen. Woman, framed with larger digestive organs, and a smaller thorax, abounds with azotized hydrocarbone, and nutritious animal matter. The substance of the male body, then, consists of oxygenated hydrogen, with excess of oxygen; that of the female, of oxygenated hydrogen, with excess of hydrogen.

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* See also Vol. I. of this Journal.

This oxygenated hydrogen, with excess of hydrogen, forms an atmosphere for the woman, which may be called negative; and the same with excess of oxygen, an atmosphere for the male, which may be named positive. Our reader need not surely be reminded of the mutual attraction which subsists between the sexes, of the violent and irresistible impulse of that passion, which carries them into the closest contact, and secures the existence of the species; but he little imagines, that all this is owing to the polar attraction of positive and negative atmospheres.

"Atmosphæriis confluentibus ipsa viri et feminæ corpora versus se mutuo tendunt, et cum idem sit nervei systematis character, se mutuo adpetunt, in amplexus ruunt, et in unionem trahuntur." Hence, we see, may be derived the physical explanation of sexual love. The atmospheres which surround individuals of different sex, attract and mutually penetrate each other. "Atmospheræ quæ utriusque sexus cingunt individua, vi quadam se mutuo attrahunt, se penetrant."

There are Benedicts, who know full well that these atmospheres must also have poles of repulsion. The seminal fluids of the two sexes are of the same nature with their bodies and atmospheres, and have the same attractions. They meet, penetrate, and attract each other, and coagulate and crystallize into an embryo, at first of no sex, but in which male or female organs are afterwards developed, according to the predominacy of the positive or negative powers, "prout vel positivæ vel negativæ vires excedant." These powers, we must recollect, are oxygen and hydrocarbone. If neither, however, should predominate, it is now easy to divine the consequence, a mutual saturation, and the production of an aphrodite, a being of ambiguous sex.

"Aura spermatis oxygena, hydrocarbone ovi azotico omnis satietur, et quasi consumatur ita, ut in neutram partem vel hydrogenii vel oxygenii excessus inclinet. Cum tamen ad hoc saturationis punctum plus minus fœtus formatio licet rarissime accedat, casu æque raro contingit ut ambigui sexus individua nascantur, in quibus et totius corporis habitus et genitalium conformatio inter utrumque sexum quasi medium tenent."

Here we must take our leave of Dr Ackermann. If his speculations have not always instructed, they have at least entertained us. We can hardly persuade ourselves that he is himself always serious; and we have more than once fancied, that we saw him throwing the tub to the whale. After all, however, there is perhaps less novelty than nonsense, in this curious account of generation. "The philosophy of this transformation will not seem surprising, to people who search into the bottom of things. Madame Bourignon, a devout French lady, has shewn us how man was at first *created male and female in one individual, having the faculty of propagation within himself;* a circumstance necessary to the state of innocence, wherein a man's happiness was not to depend upon the caprice of another. It was not till after he had made a *faux pas* that he had his female mate. Many such transformations of individuals have been well attested, particularly one by Montaigne, and another by the late Bishop of Salisbury. From all which it appears, that this system of male and female has already undergone, and may hereafter suffer, several alterations. Every smatterer in anatomy knows, that *a woman is but an introverted man;* a new fusion and flatus will turn the hollow bottom of a bottle into convexity; but I forbear, for the sake of my modest men readers, who are in a few days to be virgins."—" Then, says Anaximander, shall the negative quantity of the women be turned into positive, their — into +, *i. e.* their minus into plus*." What a pity Dr Ackermann has not rendered justice to the learned Martinus Scriblerus, from whom we have taken the above quotation. It is but candid, however, to acknowledge, that his physiological dissertations contain many excellent observations on the phenomena of generation, and the distinctive characters of the sexes; and, that Dr Ackermann, when he curbs the reins of his imagination, can be an instructive writer.

## III.

*A Treatise on the Varieties and Consequences of Ophthalmia, with a Preliminary Inquiry into its Contagious Nature.* By ARTHUR EDMONDSTON, M. D. Fellow of the Royal College of Surgeons, and Honorary Member of the Royal Physical Society of Edinburgh. Edinburgh, 1806. 8vo. pp. 319.

THE ingenious author of this treatise was, we believe, one of the first who publicly maintained the contagious nature of ophthalmia. The facts on which this conclusion was founded, were made known to us in a pamphlet published by Dr Edmondston in May 1802, entitled " An Account of an Ophthalmia which appeared in the second regiment of Argyleshire Fencibles, in the months of February, March, and April, 1802; with some Observations on the Egyptian Ophthalmia." The knowledge of this epidemic, clearly traced by Dr Edmondston to an Egyptian source, was calculated to make a strong impression on an inquisitive

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* Swift's Works. Martinus Scriblerus, his Annus Mirabilis.

tive and observing mind, and to give that bias which appears never to have forsaken our author, and which has led him constantly to avail himself of the numerous opportunities he has had of enlarging his knowledge of the disease itself.

The question concerning the propagation of ophthalmia by contagion, is very fully, and we think very ably, investigated in the preliminary inquiry. The history of the Argyleshire Fencibles, and a variety of other proofs, which the industry of Dr Edmondston has now brought together, do not allow any doubt to exist on this subject. The Egyptian ophthalmia unfortunately still subsists at home; continues destructive to our soldiers in particular battalions and regiments; and appears propagated in a way intelligible only by the admission of contagion. The Egyptian, like all other varieties of ophthalmia, is allowed, indeed, to be originally produced by external causes; and these, so numerous and powerful in the climate of Egypt, are not neglected or unacknowledged by our author. In the fourth section of his inquiry, the nature and influence of those local causes of ophthalmia are established, by a review of the best authorities. Many of those causes are evident, and have been admitted by almost every traveller and writer on the climate of Egypt; the burning heat of the sun; the night dews; the sandy soil; and scorching dry winds, loaded with dust or nitre, are causes familiar to every one. It is well remarked, however, by Dr Edmondston, that these causes, though they must at all times have imparted a tendency to ocular inflammation, do not appear to have had their full effect till Egypt became subject to the dominion of barbarians. The ancients, he observes, speak of the salubrity of this climate; the Roman physicians, who generally mention the prevalence or absence of particular affections in different climates, are altogether silent on the subject of ophthalmia, as being endemic in Egypt; nor do historians mention this as one of the diseases which assailed the crusaders.

> " While Egypt was a populous country, and agriculture flourished in it, diseases were comparatively few, and ophthalmia, as an endemic, unknown. But when it ceased to be a separate and independent state, and sunk into a distant province of a tyrannical government; when it became divided among tribes of illiterate barbarians, among whom, property, and even life itself, was insecure, unless continually watched, and in whose eyes the semblance of happiness was a crime, agriculture and the arts of peace became matters of but secondary consideration. The fertilizing canals which traversed its plains, were gradually choked up; the ditches which drained the soil, and opposed a barrier to the sands of the desert, were soon obliterated; and fields, which had been once clothed in the richest verdure, were converted into sandy wastes. According to the opinion of most modern travellers, fully a third part of the land which was formerly cultivated in

> Egypt is, at present, in a state of frightful sterility; and the desolating sands of Lybia are making annual encroachments upon what remains."

But, continues our author in another place,

> "Whatever may have been the former state of Egypt, at present it appears to be the very cradle of ophthalmia. By hereditary predisposition, it is deeply ingrafted in the constitution of its inhabitants before their birth; and, when their eyes first behold the heavens, they become exposed to the causes of this disease, whose agency, under one form or other, is unceasing during the remainder of their life."

This is, indeed, a frightful picture presented to us by Dr Edmondston; and with contagion, hereditary predisposition, and the unceasing agency of remote causes, we can be at no loss to account for the prevalence of ophthalmia in Egypt: We are rather left to wonder how any one should escape. The opinion, however, of a hereditary predisposition to ophthalmia, deeply ingrafted in the constitution of the inhabitants of Egypt before their birth, appears to us, one rather hazarded at venture by our author, than founded on observation, or deduced from actual knowledge.

Nothing can be more clear and satisfactory, than Dr Edmondston's view of the contagious nature of ophthalmia. The fact is established by a series of observations, which precludes the possibility of doubt; and in his explanations there is nothing mysterious. He does not consider the Egyptian ophthalmia as essentially different from other severe varieties of ocular inflammation occurring sporadically. It owes its origin to external causes; but when a great number have become affected with the disease, there is a production of contagion, and it extends itself to other individuals, although the external remote causes, which produced the disease in the first instances, no longer operate. And thus, the contagion of ophthalmia resembles that of some other diseases, as of typhus, in its origin and propagation.

It is, however, distinctly pointed out by our author, that the sphere of the contagion of ophthalmia is very limited; and though he even admits that, like other diseases, it may be propagated to a certain extent through the medium of the air, he states, that almost all the instances which occurred in our regiments, were produced by the actual and direct application of the virus from diseased to sound eyes.

> "The influence of this contagion does not appear to extend far from the source of its evolution, as, for a considerable time after the first appearance of the disease, it seemed to require almost immediate contact to communicate it to others; for it was confined to the soldiers, two of whom always sleeping in one bed, the sick and the healthy are often indiscriminately mingled together. It is probable therefore, from this circumstance, that a great proportion of the cases of this malignant ophthalmia occurring in regiments, are occasioned by the direct application of virus to the eyes.

Those individuals who have attentively guarded against too near an approach, have in general completely escaped.

"It is difficult, however, to state with precision the actual sphere of action of the ophthalmic contagion, as from the circumstance of the disease having been considered as a local one, the periods of exposure to its agency being frequent and indiscriminate, were either overlooked or forgotten. But from the inquiries which I have made at others, and from what has occurred to myself, I am inclined to believe that the influence of this contagion, operating through the medium of the atmosphere, does not, in ordinary circumstances, exceed the space of a foot. As the discharge of morbific matter, however, from the eyes, in cases of virulent ophthalmia, is continual and abundant, an ample source of infection is constantly present; and without extreme care and attention, to avoid intercourse with the bedding or clothes of those labouring under it, the disease may be unconsciously propagated to a wide extent.

"This opinion of the limited range of the ophthalmic contagion, is supported by the history of its propagation. On the return of some of the Egyptian regiments to Malta, the inferior class of courtezans were among its first victims, and, by degrees, it became very general over the island.—Multitudes of soldiers, on their arrival in England from Egypt, laboured under ophthalmia. Some accompanied these regiments on their march through different parts of the country, and others were discharged at the peace, and returned to their respective homes. Intimate and frequent intercourse naturally took place between them and persons in perfect health; cleanliness, at any time but little attended to by the lower ranks of society, was here disregarded, for the disease was considered as local and uninfectious. Owing to these circumstances, ophthalmia appeared at the same time in the most distant parts of Great Britain; and that peculiar modification of it, denominated Egyptian ophthalmia, is now familiar to almost every medical practitioner. A striking instance of what may be deemed the action of the virus in the state of fomites, occurs in a late publication on the Egyptian expedition. "It is worthy of remark, (says the author) that many persons, whose eyes had withstood the burning heat and pernicious glare of the Egyptian sands, were afflicted with this complaint (ophthalmia) when at sea on their return home." This temporary suspension, and afterwards a renovation of power, is eminently characteristic of a contagious principle. A striking occurrence of this kind is mentioned in the Star of the 15th July 1806. "Notwithstanding that the second battalion of the 52d regiment has been removed to Maidstone, the Egyptian ophthalmia continues to rage in a terrible degree. The number of men already blind by it is immense. This terrible disease has for nine months resisted every remedy." This may account also for the occasional suspension, as well as sudden appearance, of ophthalmia, so frequently observed; and the fact is incontrovertible, that ophthalmia has been much more frequent and general in its occurrence, and more destructive to sight, within these last three years in this country, than at any former period." p. 46-8.

Ophthalmia is divided by Dr Edmondston into idiopathic and symptomatic. Under the former, he has arranged as species, ophthalmia *mitis* and *gravis*, psoropthalmia, puriform ophthalmia of new born children, and intermittent ophthalmia; a short descriptive history is given of each, the symptoms being marked with precision in the order of their occurrence. Under the latter head, he has placed those modifications of ophthalmia which depend on the presence of some more general disease of the system. Two only are admitted, the scrophulous and venereal. One variety of venereal ophthalmia, slow in its progress, more than any other deserving the name of chronic, destroying in a gradual and insensible manner the organ of vision, depends on constitutional contamination. It is characterized by its slow and gradual progress, and by an irksome sense of itching, most troublesome towards evening, and remitting in the morning. Another variety, much more acute and rapid in its progress, marked by its sudden attack, the severity of the symptoms, and the copious purulent discharge from the eyes, is connected with gonorrhœa, and, according to general opinion, is the consequence of the sudden suppression of virulent gonorrhœa. From a comparison of authorities, and from his own observations, our author seems decidedly to adopt this opinion. He thinks it will generally be found, that it is chiefly during the first and inflammatory stage of gonorrhœa, that its suppression is likely to produce this virulent ophthalmia. To this, however, must still be opposed, notwithstanding the ingenious critique of Dr Edmondston, the observation of Mr Ware, that it has commonly appeared some time after the exhibition of mercurials for the cure of gonorrhœa; and a case which occurred to ourselves, the most severe and dreadful in its symptoms, which terminated in the total destruction of both eyes, though the gonorrhœal discharge was not suppressed. This is a case, indeed, admitted by our author, a gonorrhœal ophthalmia from inoculation. But the symptoms of this variety, are stated to be much less formidable and destructive than the ophthalmia from suppression.

We would never object to any fact or observation the difficulty of explaining it. This we have always considered as highly preposterous in the present state of our knowlege. It is an argument which is admissible only when the alleged observation is in direct opposition to a well ascertained law of the animal economy. We consider it, therefore, as no objection to the doctrine of gonorrhœal ophthalmia from suppression, that we are unable to connect, in our own minds, by any intervening link, the suppression of the one discharge with the appearance of the other. The error and difficulty unquestionably lie in our own awkward artifices to supply what is wanting; and then we cavil and dispute about translation, metastasis, and sympathy. Our author, however, availing himself of the doctrines of Bichat, and collating a variety of observations, ingeniously explains the difficulty by sympathy depending on a similarity of structure, and functions of the mucous membrane.

"That, in consequence of an intimate connexion subsisting between the urethra and the eye, from the continuity of the mucous membrane that lines both, and from its structure and function being the same in each, there exists a sympathy between these organs, rendering the one susceptible of the affection of the other; and that upon this sympathy depends, in many instances, the sudden translation of morbid action or disease from one part to another, and that among others, of a similar kind to its agency, may be ascribed the appearance of ophthalmia, in consequence of a suppressed gonorrhœa."

The consequences of ophthalmia are next described. It is here that we find the first account which has been published, of the observation made by Dr Barclay on the opacity of the cornea occasioned by distension, and the explanation of a variety of opacity founded on that discovery.

"The cornea sometimes, and in particular cases, assumes a milky appearance, and the individual is subject to temporary blindness, without much preceding inflammation, and often where little more had operated than merely a determination to the head. I had frequently observed this milky appearance of the cornea, and had been surprised at the rapidity with which it came on, and with which it disappeared; but I had no accurate conception of the mode in which these changes were effected, until my friend, Dr Barclay, by stating to me the following curious observation, enabled me in some measure to explain it. Trying to fill the vessels of the cornea from one of the veins lying on the outside of the sclerotic, he injected mercury, and instantly saw the cornea become opaque and of a milky colour. The appearance led him to suppose that he had succeeded; but the eye-ball was heavier, and both the sclerotic and the cornea very tense. On pressing the eye, some of the mercury returned by the vein; a considerable degree of the tension was removed; the cornea recovered part of its transparency; and he saw a number of mercurial globules lying in the angle between it and the iris. These globules, when the eye was shaken horizontally from right to left, did not cross towards the pupil, but run round in the angle in which he had observed them, shewing that the iris must have been convex towards the cornea at that time. To account for the return of transparency in the cornea, he supposed that the pressure and elasticity of the vessels had driven back the mercury; and satisfied with this view, he resolved to inject another eye, and preserve it afterwards in spirits. In removing the muscles from this other eye, he held it in his left hand, and accidentally pressing it, to keep it steady, to his great surprise he saw the same appearance which he had supposed to have been produced by the mercury. Instead therefore of injecting this eye with mercury, he injected it with water, and saw the cornea rendered as opaque and milky in its colour as it had been by his former injection. The conclusion was obvious; that the opacity arose from tension, and the tension, in two of the cases, from a more than usual quantity of fluids *." p. 173-4.

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* "The Doctor further informed me, that he had soon after an opportunity of

This observation, says our author, " leads to a new view of the subject, and indicates a plan of cure both effectual and different from what has been usually adopted in similar cases. " In the plan of treatment, evacuations both general and topical, venesection, saline purges, and leeches, are the remedies recommended ; or astringent applications, if it appear to be the result of undue exhalation, the effect of a weaker action than natural of the vessels.

The various causes of ophthalmia are considered under two heads ; those which are extraneous to the body, and those which have their origin in the system itself. Inversion of the eye-lids, he regards rather as the consequence of preceding inflammation and ulceration, than as a primary cause of ophthalmia. The opinion of Mr Ware, that the inversion of the upper eye-lid is caused by a relaxation of the levator, and contraction of the orbicularis, and of the lower eye-lid by a relaxation of the skin, and contraction of the inferior part of the orbicularis, is examined, and we think rendered very doubtful by the reasonings of our author.

But it is time that we turn to the treatment of ophthalmia, the subject of the last chapter of this treatise. This, agreeably to the plan adopted in the description of ophthalmia and its varieties, is divided into three sections.—Of the cure of idiopathic ophthalmia ; of the treatment of symptomatic ophthalmia ; and of the treatment of the consequences of ophthalmia, encanthis, pterygium, ulceration of the cornea, opacity of the cornea, hypopion, and staphyloma.

There are two distinct stages in the progress of ophthalmia, which our author has been at great pains to point out, and to which he recals his reader's attention, when entering on the treatment. The first, characterized by a sense of heat, acute pain, intolerance of light, and a florid colour of the vessels of the conjunctiva, indicating an increase in the action of these vessels, and of the quantity of blood in them ; the second, distinguished by a sense of weight, obscure pain, and turgescence of the vessels, which, in this state, are of a dark or purple hue, indicating an action

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of verifying his opinion in the case of a dog, who became suddenly blind in the course of a night ; but that the blindness was removed, by bleeding and purging, in the space of two days.

" There is another fact, connected with this subject, which I derived from the same source, that it is not uncommon in horses to become blind, after they are sent to grass, (probably from the dependent position of the head), but they recover their sight again in a short time, assisted by the purgative nature of their new food. "

action less than natural, and the consequence of this previous action. But between these extreme points, there are various gradations in the series of arterial action. It is only, however, by keeping these constantly in view, that the means of cure can be wisely and usefully employed; and that remedies of the most opposite nature can, in succesion, be used with advantage. The principal remedy, in the early and acute stage, is topical blood-letting; and, of all the modes of practising this, the division of the vessels on the conjunctiva and eyelids, is recommended by our author as by far the most effectual. It is adapted chiefly to the earliest stage of the disorder, when the arterial action is at its acmé.

"But when the vessels have a purplish hue, appear much dilated, and the patient complains of a sense of weight and fulness, even although no purulent discharge has taken place, that the same remedy is hurtful, and instead of advancing, often materially retards the cure. These distinctions should be carefully attended to, especially in the Egyptian, or more aggravated forms of acute opthalmia. In these latter cases, the inflammatory action runs rapidly very high, and the natural tone of the vessels seems to be lost in a very short time. In some instances it is irrecoverably so; and although the person continues to see objects dimly, yet his eyes remain red and spongy, and the slightest irritation brings on an increase of pain and inflammation. Scarification, therefore, when the vessels of the eye are in this state of great local weakness, frequently gives rise to an extensive ecchymosis, increases the tumefaction, and protracts the cure.

"The difficulty of making a nice discrimination in this respect, appears to me one great reason why so many medical gentlemen in Egypt were adverse to the use of scarification, and a proof of its utility when properly administered. The invasion of the disease is often so sudden, and the progress of the inflammation so uncommonly rapid, often giving rise to the puriform discharge in the space of an hour, that the surgeon has seldom the opportunity of seeing the disease at its commencement. But as the serous effusion, purulent discharge, and occasional ulceration that take place, are so many leading and undubitable proofs of previous inflammatory action, no doubt can exist as to the propriety of topical blood-letting in the early stages of the disease, as the best and most effectual means of averting these consequences. The time left for deliberation is very short, but so convinced have I been of the benefit resulting from early scarification, that in the ophthalmia which raged in the Argyleshire regiment, I have repeatedly stopped the soldiers on their march to scarify their eyes the moment they applied to me; and so satisfied were they of its salutary effects, that notwithstanding the exquisite pain attendant on the operation, they voluntarily returned and requested a repetition of it. Indeed I am firmly persuaded, that if there be any means of arresting the progress of the inflammation in that violent and destructive variety of ophthalmia, it is scarification of the vessels on the globe of the eye itself; and when performed early, and duly repeated, I have never known it fail of success. The Egyptians themselves practice this mode of topical blood-letting." p. 224-7.

In this early and active stage, the inflammation, he thinks, is confined to the vessels of the conjunctiva ; and it is only, he says, subsequently, when the irritation has been communicated to the larger trunks, marked by a renewal of pain and headach, that larger bleedings are useful from those trunks, as from the temporal artery or a nasal vein, though he considers the latter preferable to the former. Scarifying and cupping the temples also, appears to Dr Edmondston better adapted to cases of long continued ophthalmia. General blood-letting he believes to be seldom necessary in cases of ophthalmia ; and unless the *quantity* taken away is uncommonly *great*, it scarcely, he says, diminishes the local inflammation.

> " If the patient be plethoric, and there appears any determination to the head beyond what the local inflammation might be supposed to induce, it no doubt may be proper to take away blood from the arm, according to the urgency of the case ; but in pure ophthalmia this is comparatively rare."

The general febrile irritation is purely symptomatic, and it is surprising to observe with what rapidity it declines when the local inflammation subsides. But, he continues,

> " It is not so much the *quantity* of blood, as its sudden distraction, that is useful, not only in ophthalmia, but in almost every case of inflammation. This is the only mode of blood-letting which may be employed in every stage of the disease. At the commencement of an attack, it will moderate the force of the general circulation, and render more effectual the local evacuations. In the more advanced stages, when headach, and general fever prevail, its use is not less obvious. But, as stated above, it should not be wantonly practised. The patient may be very much weakened, without the local affection being sensibly relieved."

Conjoined with these evacuations of blood-letting and purging, different kinds of collyria are employed. These are generally used by Dr Edmondston in a lukewarm or tepid state ; and in the active state, where local blood-letting is so useful, he has derived the greatest benefit from frequent ablutions of the eye with lukewarm milk and water. In the second stage, when appearances indicating the loss of tone have taken place, our object is said to be to take off the determination to the eye, and to endeavour, by local applications, to restore to the vessels their lost tone. The first of these intentions is answered by blisters applied to the forehead and temples. Useful, however, as these often prove, when used in the second stage of ophthalmia, Dr Edmondston is, from careful observation, persuaded, that in the first stage, where the inflammation is purely active, they are productive of more harm than good. The collyria, which were recommended to be employed tepid in the first stage, are, in the second stage, to be used cold, or of the temperature of the atmosphere. This stage also, when combined with pain and irritability, is the period for antispasmodic and sedative applications, such as the tincture of opium.

We cannot follow Dr Edmondston through the whole of his treatment of the varieties and consequences of ophthalmia. The short analysis which we have made, will enable our readers to judge of Dr Edmondston's method. His object is highly important; to determine, with accuracy and precision, the proper occasions for the safe and efficacious employment of different remedies, too often indiscriminately jumbled together, not only in books, but in practice.

## IV.

*A Treatise on Insanity, in which are contained the Principles of a new and more practical Nosology of Maniacal Disorders than has yet been offered to the public, exemplified by numerous and accurate historical relations of cases from the Author's public and private practice, with Plates, illustrative of the Craniology of Maniacs and Idiots.* By PH. PINEL, Professor of the School of Medicine at Paris, &c. &c. Translated from the French by D. D. Davis, M. D. Physician to the Sheffield Infirmary. 8vo. pp. 288. 1806.

THE principal object of the author in this treatise appears to be, to call the attention of his countrymen to the baneful errors which are to be found in the general conduct of lunatic establishments in France, and to point out the advantages of a rational *moral management* of disorders of the mind. In this country we have the less need of such admonitions, because the leading principles on which they are founded have been long understood by the intelligent physicians who superintend our asylums for the insane, as the writings of Dr Ferriar, Dr Cox, Mr Haslam, and others, amply testify. Still, we fear, that there remain, even in this country, some institutions, in which the maxims of those enlightened and humane practitioners have not been permitted to supersede the routine of empiricism and cruelty; and in which the unfortunate prisoners are treated as beings, whose faculties and feelings are annihilated, not perverted; and on whom, therefore, indignities and severities may be multiplied with impunity, to insure the submission of the patient, and the ease of the keeper. At all events, we have much to learn, in regard to the derangements of intellect; and the collection of facts, detailed by this intelligent foreigner, is sufficiently ample and interesting to demand our serious attention.

The first section introduces the subject of *periodical insanity*, which is the most common form of the disease; and the progress of a paroxysm of which, may serve as a prototype of more permanent derangement. The author remarks, that the return of the attack, and its cessation, seem to be often governed by the changes of season, some returning regularly after the summer solstice, and declining with autumn; and others commencing with the approach of the cold season, and terminating with the commencement of mild weather; and that maniacs of all descriptions are subject to a kind of effervescence, or tumultuous agitation, upon the approach either of stormy or very warm weather. There are other instances of periodical insanity, which are not connected with particular seasons, but seem to depend on a peculiar idiosyncrasy. These, though fortunately less frequent, are much more difficult of cure; they are chiefly characterized by ungovernable fury, and a propensity to deeds of blood, constituting the mania without delirium of Dr Pinel's arrangement. The nature of the exciting cause, he affirms, does not stamp the character of the derangement which ensues. Periodical madness originates from the most opposite causes, and assumes various forms. The temperament of the individual seems to be the only regulator of the nature of the insanity.

From the description which Dr Pinel has given of the precursory symptoms, and the attack of periodical mania, it would appear that it generally originates in some physical condition of the body. He thinks, that " the affinity of the complaint with melancholia and hypochondriasis, warrants the presumption, that its seat, primarily, is almost always in the epigastric region; and that from this centre are propogated, as it were by a species of irradiation, the accessions of insanity." A sense of tightness in the region of the stomach, loss of appetite, constipation, a sensation of heat in the bowels, followed by a kind of general uneasiness, not to be described, indisposition to sleep, timidity, and at length, incoherence, and incongruity of ideas, terminating in complete derangement, are the symptoms which the paroxysms of intermittent insanity usually exhibit. Every function of the mind is found occasionally to suffer in these paroxysms; and the natural disposition is often strangely reversed, so that the calm and placid temper shall become most mischievous, and the man of integrity acquire an irresistible propensity to cheat and steal. In a maniacal paroxysm, there is generally a high degree both of physical and moral excitement, evinced by the great corporeal strength, the mental fury, enthusiasm, and rapidity of thought, and sometimes by an increase of talent. But the author cautions us against the belief that the power of resisting cold is universally great; and affirms, that seldom a whole year has passed, during which no fatal accident has taken place at the asylum of Bicêtre, from the action of cold upon the extremities. He likewise remarks, that a dangerous debility often occurs towards the decline of a paroxysm of mania, which requires peculiar attention.

In section 2d, Dr Pinel discusses the subject of the *moral* management of insanity. Many valuable facts and cases are here detailed; but they are too much insulated and unconnected to leave any very satisfactory impression on the mind; had the author reserved them for arrangement under the proper heads, in his classification of insanity, the details would have been more impressive and useful.

The nature of intellectual derangement is now viewed in its proper light. It is admitted, that insanity does not consist in a *loss* of the rational faculties, in the *abolition* of the motives and sentiments which distinguish human nature, (a truth, which, simple as it is, the absurd treatment of maniacs, in times not long past, would lead us to suppose to have been not then understood;) and that, consequently, maniacs are accessible to the operation of external impressions, which it is the business of the curative art to excite and to vary, according to the morbid variation of the faculties and motives by which the individual is misled. A madhouse may be considered as a great school, for the correction of those gross singularities of character, and errors of mind, which are so great as to endanger the safety of the individual, the security of his affairs, or the peace of society. And how are such pupils to be managed? By the use of drugs, by seclusion in a solitary cell, by blows and stripes, by indignities from the menial servants of the establishment, and by a total inattention to the nature of their morbid change of character? Obviously not. The first step of the superintendent will be, to convince the maniac that his power is absolute, and that all the extravagances of the latter will be restrained by force. A prudent and vigorous coercion will generally restrain the fury, and sometimes restore rationality speedily. He will then treat him with all lenity and kindness, and with the manners due to his station in life, which will insure the respect of the pupil to his master; and every liberty and indulgence, consistent with safety and propriety, will be allowed. The nature of his hallucination will then be attended to; and, where it can be directly counteracted, proper measures will be taken; but the system of rigid discipline, in general, is perhaps the chief corrector of the extravagances of mania. Punishments for disobedience to this established system must necessarily be adopted; but the strait waistcoat, and seclusion for a limited time, are perhaps the only punishments which can be employed, without irritating the patient, or wounding his feelings, which, as Dr Ferriar has remarked, are often acutely sensible to indignities. We have been informed, that a celebrated physician in this country sits down with his party of maniacs at his table daily; they are made to understand, that every effervescence or extravagance, will immediately subject the aggressor to dismissal from the table, and to confinement; and the insane are thus, by degrees brought back to rationality and decorum in the school of society. If, accidentally, a patient is unable to restrain a rising tumult within, he will frequently retire of his own accord.

This view of the subject appears to be precisely what Dr Pinel inculcates. It seems obvious, that in general instances, this *moral management*, this system of intimidation without cruelty, of restraint without indignity, of rigid order and discipline, combined with lenity and conciliation, is the only rational and successful mode of combating the extravagances of lunacy, of which the causes have been purely moral. It were as easy to restore the swindler or the thief, to sentiments of virtue and honesty, by blistering and purging, as to correct the absurd hallucinations, in such cases, by the administration of drugs. Where the *moral* means, (the intimidations of a prison, the hulks, or the gallows) fail of repressing the morbid inclinations of the latter, the cases, it is to be feared, are incurable.

But Dr Pinel observes, that the lesions of the human *intellect* simply, embrace but a part of the object of his treatise.

"The active faculties of the mind are not less subject to serious lesions and changes, nor less deserving of ample consideration. The diseased affections of the will; excessive or defective emotions, passions, &c. whether intermittent or continued, are sometimes associated with lesions of the intellect; at other times, however, the understanding is perfectly free in every department of its exercise." p. 82.

It is from this species of mania that the adage of the poet, *ira furor brevis est*, is borrowed, and to which hellebore might be essentially useful. We shall quote a case in illustration. The symptoms, Dr Pinel remarks, appear to be totally inexplicable, upon the principles of Locke and Condillac.

"The insanity (in this instance) was periodical. The paroxysms generally returned after an interval of several months. The first symptom was a sensation of great heat in the umbilical region, which was felt to ascend progressively to the chest, neck, and face. To this succeeded a flushed countenance, wildness of the eyes, and great distension of the veins and arteries of the head. No sooner was the brain itself invaded, than the patient was suddenly seized by an irresistible propensity to commit acts of barbarity and bloodshed. Thus actuated, he felt, as he afterwards informed me, a contest terrible to his conscience arise within him, between this dread propensity, which it was not in his power to subdue, and the profound horror, which the blackest crime of murder inspired. The memory, the imagination, and the judgment, of this unfortunate man were perfectly sound. He declared to me, very solemnly, during his confinement, that the murderous impulse, however unaccountable it might appear, was in no degree obedient to his will; and that it once had sought to violate the nearest relationship he had in the world *; and to bury in blood the tenderest sympathies of his soul. He frequently repeated these declarations during his lucid intervals." p. 84. *et seq.* "It is easy to see," the author adds, "that paroxysms of this nature admit not of the application of moral remedies. The indication must, therefore, consist in their prevention by evacuants, or their suppression by antispasmodics."

It will readily be granted that these paroxysms, arising obviously from a great physical excitement in the system, will be the most effectually repressed by physical expedients; but the indication is surely to evacuate, and not to stimulate by such medicines as usually come under the denomination of antispasmodics.

It is painful to remark even the appearance of a contradiction to principles thus decisively announced; but Dr Pinel is not always precisely consistent with himself. He says, p. 235. "I have found maniacal fury *without* delirium, which, in France, is called *folie raisonante*, whether continued, periodical, or subject to irregular returns, and independent of the influence of the seasons, the variety of the disorder most unyielding to the action of remedies." And he also affirms, p. 109. *note*, "I never give any medicine, excepting in cases of regular intermittent insanity, religious melancholy, and delirium, *with* a total obliteration of the faculties of judgment and reasoning." These incongruities, which probably originate from the contemplation of individual cases, tend to throw a shade of doubt over the general deductions of M. Pinel, and to rob him of that entire confidence which a reader is ever anxious to repose in his author.

After detailing a few histories, in which moral means, varied according to the character of the maniac, were successfully employed, and describing expedients for preventing quarrels among maniacs, and securing them under occasional explosions of fury, Dr Pinel proceeds to inquire, whether insanity depends upon organic lesion of the brain, or is connected with any peculiar conformation of the cranium? In both inquiries, he replies in the negative. That the configuration of the skull has no influence in producing mania, appears, he observes, from the nature of the exciting causes, the great majority of which have been vivid affections of the mind, such as ungovernable or disappointed ambition, religious fanaticism, or unfortunate love. Insanity is most frequently produced in those persons whose profession leads them to speculation, to much play of the imagination, uncorrected by the exercise of the more sober faculties of reasoning and judgment, which are more susceptible of satiety and fatigue.

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* In the case of his wife, whom he immediately warned of it, and advised her to fly from him.

" In consulting the registers of Bicêtre, we find many priests and monks, as well as country people, terrified into this condition by the anticipation of hell torments : many artists, painters, sculptors, and musicians ; some poets *extatized* by their own productions : a great number of advocates and attorneys. But there are no instances of persons whose professions require the habitual exercise of the judging faculty ; not one naturalist, nor a physician, a chemist, and for the best reason in the world, not one geometrician." p. 114.

The only morbid condition of the intellect, which appears to be connected with any peculiar formation of the skull, is connate idiotism.

In the fourth section, Dr Pinel presents us with his distribution of insanity into different species. Hitherto, we have to regret that a good *practical* nosology of mental disorders, which constitutes an important step towards a system of practical precepts, remains a desideratum in medicine. We have been constantly perplexed between extremes ; on the one hand, by metaphysical divisions of insanity into two or three genera, under which the most incongruous species have been included ; or, on the other, by a minute subdivision of varieties, from which nothing like a general principle could be deduced. Dr Pinel's arrangement is void of metaphysical subtlety, and appears to be more the result of practical observation than those of his predecessors. He divides mental derangement into five species ; namely, 1. *Melancholia*, or delirium upon one subject exclusively. 2. *Mania* without *delirium*. 3. *Mania* with *delirium*. 4. *Dementia*, or the abolition of judgment, characterized by a rapid succession of ideas, unconnected by any obvious association among themselves, and without relation to external objects ; and, 5. *Idiotism*, or the obliteration of the intellectual faculties and affections.

By the word *mania*, which, though Dr Pinel has used it in a peculiar sense, he has not defined, it would appear, that fury, or a great physical and moral excitement is to be understood, in species second ; but, in the 3d species, this excitement is said to be accompanied sometimes by " emotions of gaiety, or of *despondence*," an union which we do not exactly comprehend. It is evident, upon the slightest examination, and the author himself remarks it in respect to *melancholia*, that varieties of insanity, which demand very different, even opposite treatment, are comprehended, in this arrangement, under the same title. Thus, under the term *melancholia*, are included those cases of great depression, which are more commonly called melancholy, and also those other examples of the exclusive prevalence of one insane idea, in which gaiety and high spirits, exalted sentiments of self-importance, &c. are the leading features; not to mention the hypochondriacal melancholy, where the hallucination originates in some obscure corporeal sensation, unaccompanied by any material excitement or depression. And thus, also, in mania *without* delirium, one of the cases related by the author, was the result of a peculiar physical condition of the body, which might be relieved by evacuants; another was the effervescence of passion, nurtured and augmented by an erroneous system of education, and altogether independent of physical disorder. But though this arrangement be still imperfect, it is useful to have pointed out *three* striking varieties of *mania;* that which consists in a high mental excitement, without any false conceptions or errors of judgment; that which is distinguished by a general delirium, but in which the ordinary association of ideas remains; and the *dementia*, or that in which the faculty of association appears to be lost. This last is illustrated by the case of a man, who "passed several months in the infirmary of Bicêtre, in a state of tranquil *reverieism*, uttering incessantly, half expressed and unconnected sentences. He spoke alternately of daggers, sabres, dismasted vessels, green meadows, his wife, his hat, &c. He never thought of eating but when food was absolutely put into his mouth; and, in respect to his functions, he was almost levelled with an automaton." p. 162.

Section fifth contains many important observations, in regard to the system of police which ought to be adopted for the internal management of lunatic asylums. The author is here, of course, compelled to repeat the principles which were discussed in the second section. He justly observes, with respect to the character of the superintendents, and the mode of treatment which reason, humanity, and experience, suggests,

"A coarse and unenlightened mind considers the violent expressions, vociferation, and riotous demeanour of maniacs, as malicious and intentional insults; hence the extreme harshness, blows, and barbarous treatment, which keepers, if not chosen with discretion, and kept within the bounds of their duty, are disposed to indulge in towards the unfortunate beings confided to their care. A man of better feeling and consideration sees, in those effervescences of a maniac, but the impulses of an automaton, or rather, the necessary effects of a nervous excitement, no more calculated to excite anger than a blow or a crush from a stone, propelled by its specific gravity. Such an observer, on the contrary, is disposed to allow his patients all the extent of liberty consistent with their own safety, and that of others. He conceals, with great address, the means of constraint to which he is compelled to resort; yields to their caprices with apparent complacency; eludes, with dexterity, their inconsiderate demands; soothes, with coolness and kindness, their intemperate passions; turns to advantage every interval of their fury; and meets, with force, their otherwise incoercible extravagances."

He recommends the imitation, to a certain degree, of the measures of the ancient Egyptian priesthood, that of agitating and gratifying the external senses, and thus interrupting their chain of gloomy ideas, and engaging their interest, by various amusements; also, that of instituting, for convalescents, varieties of bodily exercise, even including laborious occupations; and especially, of encouraging the first dawn of returning taste for the previous pursuits and avocations of individuals. He dwells upon the propriety of separating certain classes of the insane from others, especially idiots, and those whose derangement is connected with epilepsy; as few objects are found to inspire so much horror and repugnance amongst maniacs in general, as the sight of epileptic fits. He describes a judicious distribution of the daily services performed in the asylum of Bicêtre, the general government of which "resembled the superintendence of a great family, consisting of turbulent individuals, whose fury it should be more the object to repress than to exasperate, to govern by wisdom, rather than to subdue by terror." The necessity of interdicting all communication between maniacs and persons from without, except under particular circumstances, is insisted on; and several cases are mentioned, in which convalescents were thrown back to a violent degree of madness, often of long duration, sometimes permanently incurable, by the provocations of visitors, or even the sight of some with whom peculiar associations were connected.

In the sixth and last section, the medical treatment of insanity is discussed. A considerable portion of this section, however, is employed in recurrences to the moral management. With respect to the action of physical remedies, we meet with little that is satisfactory; the author speaks not as if from much experience in this mode of practice, and is chiefly employed in discussing and pointing out the unsatisfactory nature of the experiments of others. He admits the general principle of purging and venesection in the commencement of paroxysms, accompanied with high excitement; and of administering bark and tonics, as recommended by Dr Ferriar, in melancholy, combined with extreme depression of spirits and strength. On the subject of the prognosis in particular instances of insanity, we meet with no satisfactory instruction: Dr Pinel contents himself with relating two or three cases, easy of decision, but from which no practical precepts can be deduced.

As a collection of interesting and well described facts, this work will be considered as of no small value. It contributes materially to sanction and illustrate that general doctrine which the writings of English physicians have, for some time past, decidedly inculcated. We rise from the perusal of it with a conviction, that the principles of governing and reforming men, in all situations, are the same; the same, whether they be in a state of sanity or of insanity, for we perceive that we cannot draw a line of distinction: that from perfect virtue and perfect wisdom, which, perhaps, alone constitute perfect sanity, through all the gradations of singularities, follies, unconquered passions, and vicious propensities, to the extremes of melancholia, mania, dementia, and idiotism, the principles of the constitution of the human mind are uniform. The practical inference is unequivocal.

The translator has executed his task with ability, and has infused much of the spirit of the original into his own idiom; he has, now and then introduced a word, however, which is not English, and which the critic must condemn, such as *extatise*, *reverieism*, &c. He has prefixed to the work a learned and perspicuous sketch of the literary history of insanity, including the opinions and practice of the ancients and moderns, down to Dr Pinel, which possesses considerable interest.

## V.

### *Darstellung des Gegensatzes zwischen Flexoren und Extensoren und ihre Erregbarkeiten, wie ihn Galvanische Versuche geben, und Reduction desselben auf einen andern neuen überall verbreiteten Gegensatz.* Vom J. W. RITTER *.

THE author of the essay now before us, is perhaps one of the most remarkable philosophers of the present times. Born in an humble station of life, unassisted by regular education, ignorant of the world and its ways, by the mere efforts of genius, and indefatigable industry, in the successful elucidation of the abstract sciences of electricity and galvanism, he has surpassed all his fellow-labourers; and, on account of his merit alone, he has been rapidly promoted to the highest literary honours. After publishing many ingenious essays in the various periodical publications of Germany, and which have been lately collected into a distinct work*, he commenced, in 1800, a Journal, appropriated to the improvement of our knowledge of galvanism, and concluded it with the completion of the second volume in 1805.

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* *See* Beiträge zur nähern Kenntniss des Galvanismus und der Resultate seiner Untersuchung; herausgegeben von J. W. Ritter, 2 bd. 3 st. 8vo. Jena, 1805.

Of the contents of these volumes, we have selected the essay whose title is prefixed to this article, not so much on account of its possessing a higher degree of general merit, as of its intimate connexion with some of the most important doctrines of physiology. We shall attempt to condense the curious facts contained in it, in the hopes that they may attract the attention of some of the numerous philosophers in this country, who are capable of confirming or refuting the very unexpected conclusions to which they lead.

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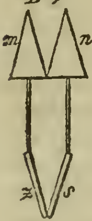

If two muscular organs, two frogs legs for example, of low excitability, be prepared in the usual manner; and the muscles be connected with each other, either immediately, or by means of any conductor of galvanism; and if the nerve of the one, *n D.* 1., be armed with silver, *s*; and the nerve of the other, *m*, with zinc, *z*, on bringing the metals into contact, the muscle *m*, whose nerve is connected with the zinc, is excited, either alone or most strongly; while, on the contrary, on separating the metals, the silver muscle, *n*, is alone excited, though less strongly.

The phenomena of this experiment vary considerably, according to the degree of excitability in the organs subjected to it; and with organs of high excitability they are directly reversed, for, on the contact of the metals, *n* alone is excited, and on separating them *m*.

The change from the one of these extremes to the other is infinitely gradual; but, for the sake of convenience, it is divided into five states, which are represented in the following diagrams, in which the character ↓ indicates, that the limb to which it is affixed contracts on separating the metals, and the character ↑, that it contracts on bring them in to contact. It was also intended, that two degrees of this contraction should be expressed by the character being large or small, but our engraver has not succeeded so well as we expected. *D.* 2. exhibits the phenomena which occur in the highest state of excitability, *D.* 6. in the lowest, *D.* 4. the medium state, and *D.* 3. and *D.* 5. are two intermediate states, between the medium and the extremes.

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* Physisch-chemische Abhandlungen in chronologischer Folge. Von J. W. Ritter. 3 bd. 8vo. Leipzig, 1806.

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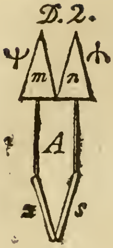

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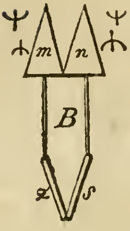

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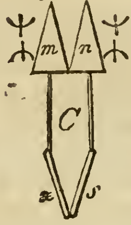

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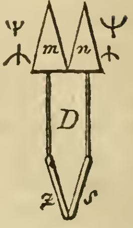
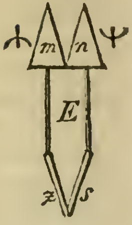


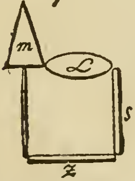
D. 6.



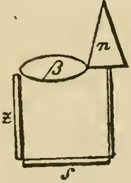
Thus, *D.* 2. represents the highest state of excitability, when on the contact of the metals *n* alone is excited, and *m* only on separating them. After some time, *m* begins to be excited feebly, while *n* continues to be strongly excited, on bringing the metals into contact; and on separating them, the excitement of *m* is accompanied with a smaller degree in *n D.* 3.: until at last there appears no perceptible difference in the excitement of *m* and of *n*, *D.* 4. either on the contact or separation of the metals. On prosecuting the experiment, they again begin to be excited unequally, but in the reverse order, that is, *m* more strongly on shutting, and *n* on opening the chain, *D.* 5. The excitement of *n* on shutting, and of *m* on opening, gradually decreases, until it ceases altogether; and *m* is excited only on shutting, and *n* only on opening *D.* 6. As the excitability begins to be exhausted, *n* ceases to be acted upon, and at last also *m*, or the excitability of the organs *m* and *n* is no longer sensible to the action of zinc and silver.

The different states of excitability, corresponding with these phenomena, may be shortly expressed by the symbols *A. B. C, D. E.*

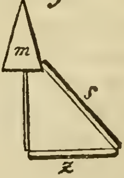
D. 7.



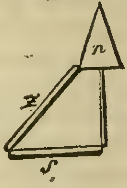
D. 8.



D. 9.



D. 10



The same series of phenomena may be exhibited in a single muscular organ, by substituting for the other a piece of moist sponge or muscular flesh, as in *D.* 7. and 8.; or still more simply, by directly arming the muscle and nerve with the different metals, as in *D.* 9. and 10.

It is seldom that two extremities, even of the same frog, can be so prepared as to have exactly the same degree or state of excitability.

ability. Hence arise various combinations, and hence many phenomena, which might otherwise be considered as anomalous.

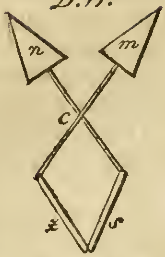
A determinate degree of excitability, estimated according to the degree and energy of the excitement produced by the action of zinc and silver, is not connected with a determinate or corresponding state or kind of excitability, except in the same individual and its organs, when not influenced by any external circumstances.

The whole series of phenomena, from *A* to *E*, is not exhibited by all animals, nor even by all frogs, however quickly prepared. It is only when awakened from their winter sleep, or shortly before their season of procreation, that these last generally rise so high as *A*. With generation they suddenly sink to *C*, or at least to *B*. During summer, they continue in part at *C*, and in part sink to *D*, seldom to *E*. In autumn, the excitability mounts to *C* or *B*. A single cold day will have this effect, and on the approach of winter they rise almost to *A*, the state in which they are said to be during their winter sleep. Such is the usual progress amongst frogs of middling size and age. Very old and very young ones, seldom rise higher than *C* or *B*. With regard to other animals, it appears, that, under similar circumstances, and with the excitement furnished by zinc and silver, amphibia alone reach *A*; fish more commonly *C*; quadrupeds only *D*; and birds, and the human extremities when amputated, no higher than *E*.

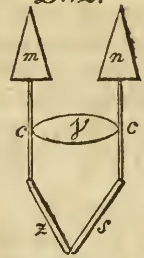
The changes in the excitability of muscular organs, when separated from the body, is always progressive from *A* towards *E*, and never in the inverse order. Although we may fail in our attempts to exhibit all the intermediate states, from want of sufficient expertness, none are passed over; and, in every instance, *E* is the last before the final extinction of the excitability.

In the preceding experiments, the muscular organs were connected directly, or by some conductor; but the same phenomena occur when the connexion is made by the nerves immediately, as in *D.* 11., or by means of a homogeneous conductor, as in *D.* 12., provided the portions of nerve *z c*, *s c* be equivalent in length and excitability to *z m* and *s m* in the preceding experiments, that is, when the nerves are dissected so far out of the organ, that *c*, the point of connexion, is exactly the same where it entered the organ.

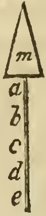
D. 11.



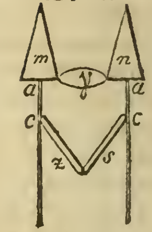
D. 12.



D. 13.



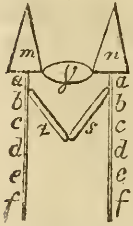
D. 14.



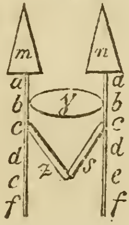
When a limb is separated from the body, and its nerve prepared, the excitability does not decrease in every part of the nerve in the same degree or in the same time, but disappears sooner in each point of it as it is more cerebral or nearer the brain, thus, in *D.* 13., after *e* is no longer excitable by zinc and silver, *d c b a* are still excitable, and of these *c* more than *d*, *b* than *c*, and *a* than *b*; and, in the same manner, the excitability of the nerves belonging to the various muscles of the limb disappears soonest in the most proximal, and last of all in the most distal, or in the extremities of the toes.

In the same animal, organ, or nerve, a higher degree is connected with a higher state of excitability, hence each nerve, in so far as it presents a successive series of degrees of excitability, presents also a series of states of excitability, or at least different degrees of the same state. If, for example, the whole nerve be in the state *A*, its phenomena are more strongly exhibited, by including in the arc the muscular than the cerebral half, that is, in *D.* 14. than in *D.* 12. The same holds good when the whole nerve is in *E*, or in any intermediate state; much more frequently, however, different states are present at the same time in the same nerve, and then the muscular end is always nearer to *A*, and the cerebral end to *E*. Thus, sometimes, when a great length of the nerve is prepared, in the arrangement *D.* 15., the state *A* shall be present; in *D.* 16. *B*, *D.* 17. *C*, in *D.* 18. *D*, and in *D.* 19. *E*, all perfectly distinct.

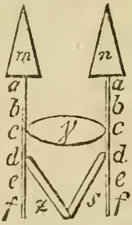
D. 15.



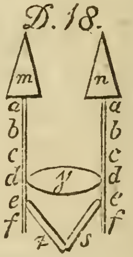
D. 16.



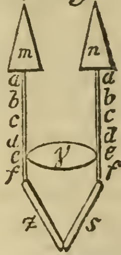
D. 17.



D. 18.

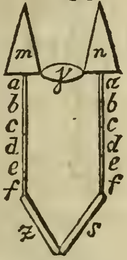


D. 19.

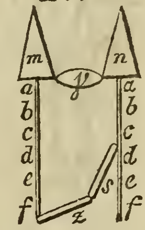


Hence, when a longer portion of nerve is included in the arc than is in one state of excitability, the result is compounded of the phenomena of each, so that, when in such preparations as *D.* 15. to *D.* 19., the whole nerve is included as in *D.* 20., we have a compound resulting of all these states, inclining more or less to *A* or *E.*

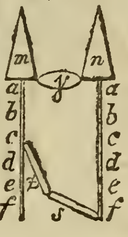
D. 20.



D. 21.



D. 22.



Hence we also see the infinite variations which may occur, when the excitabilities of *m* and *n* are unequal, and when different lengths of the nerves of each are included, as in *D.* 21. and *D.* 22.

From what has been said, it appears that there are different states of excitability, whose extremes, *A* and *E, D.* 2. and *D.* 6. are directly opposed to each other, and true antagonists. The intermediate states *B C* and *D,* between these extremes, are only so many mixtures and simultaneous appearances of the antagonist states *A* and *E,* and differ from each other only in the relative proportions of *A* and *E.*

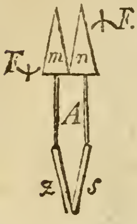
Previous to the death of every organ, the last state of excitability presents *E,* and the highest state in our power to detect is *A* ; and the invariable progress from life to death is in the direction *A—E,* passing succesively through the mixed states *B C D,* and never in an inverse direction.

The second section treats of the different excitabilities of flexor and extensor muscles, and their antagonism.

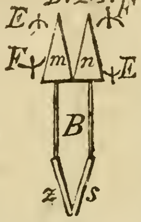
In experimenting, it was early observed, that the leg was sometimes bent and sometimes extended ; but the laws, according to which this happened, escaped observation, until the discovery of the different states of excitability *A* and *E,* when the whole mystery was explained.

If a preparation is in the state *A,* on bringing the metals into contact, only the flexors in *n* contract, and the leg is bent ; and, on separating the metals, the same takes place in *m.* As the preparation passes successively towards *E,* the extensors also are excited more and more slowly, but in the opposite legs, that is, in *m* on shutting, and in *n* on opening the arc, while the action of the flexors gradually decreases, so that in *C* their action is equal, and in *E* the extensors alone contract. These changes are represented in the following diagrams, in which the comparative action of the flexors and extensors is represented by the size of the character affixed to their initial letter.

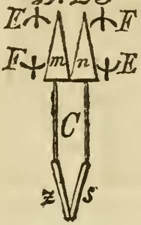
D. 23.



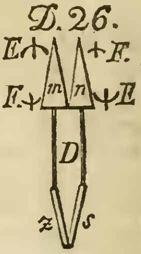
D. 24.



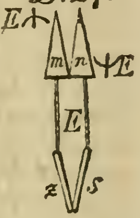
D. 25



D. 26.



D. 27.



Each of these may be resolved into two simple arcs, and it is therefore easy to discover which muscles contract on shutting, and which on opening them, according to the state in which the organ is found.

This discovery may also be applied to the explanation of the phenomena already noticed, and the results may be predicted, so far as they relate to flexor or extensor excitability. It is almost unnecessary to state, that the nerves only are required to form a part of the circle, and that the excitability, however it may be modified by the muscles, belongs immediately to the nerves. Each of the states consists in a determined proportion of extensor and of flexor excitability, *A* consisting entirely of the latter, and *E* of the former. The nearer the muscular end of the nerve, the nearer to *A*, or flexor excitability, and the nearer the cerebral end, the nearer to *E*, or extensor excitability. The excitability of the flexors always dies before that of the extensors.

The general result of this section is, that flexors and extensors have different excitabilities, which are opposite extremes; and that all intermediate states are only apparent, from the same stimulus acting upon both at the same time, either in equal or unequal degrees.

We have thus seen, that an organ, from the action of the same stimulus, exhibits its phenomena in an inverted order and kind at different times; but, on nearer investigation, we have found that totally different parts of the organ have produced these phenomena on the one and on the other occasion. *A* is the pure state of the flexors, *E* of the extensors, and *B C D* are only various mixtures of these, and have nothing peculiar; and hence, with respect to kind, the excitability of the flexors is subject to no variety. The same is true of the extensors.

The effect of different degrees of stimulus on the same organ, and at the same time, are examined in the fourth section. If a preparation, when acted upon by zinc and silver, exhibits the phenomena of *A*, it exhibits the same with any weaker degree of galvanic stimulus, as that of zinc and copper, copper and silver, &c.; but if a higher stimulus is applied, as zinc and graphite, zinc and oxide of manganese, or a pile of several plates of zinc and silver, it presents, according to the strength of the stimulus applied, *B C D*, or even *E*; if with zinc and silver, it shews any intermediate state, with a weaker stimulus it exhibits a state nearer to *A*, and with a stronger nearer to *E*; lastly, if with zinc and silver it exhibits *E*, with a weaker stimulus it retrogrades to *D C B*, and sometimes even to *A*. Every stronger stimulus exhibits *E*, only stronger in degree, or destroys the excitability altogether.

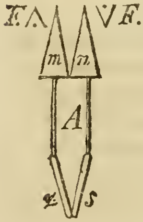
The change of the state of excitability, with the degree of galvanic power applied, illustrates what was said of the excitability of the animal kingdom. The higher and more durable the excitability, the greater, and the lower and more transient, the weaker is the excitability of the flexors, and its preponderance in animals. It will not now appear strange, that in some classes the excitability approaches so nearly to *E*, and the flexor excitability is so remarkably deficient. It is entirely owing to the action of zinc and silver being too great, and operating too much on the extensors, while the excitability of the flexors disappears most quickly; but in every animal, by proper dexterity, the state *A* may be detected. From all this, the following remarkable conclusion is deduced.

“ Every galvanic stimulus, which acts upon animal organs, when both flexors and extensors are present, acts first and immediately upon the former, or the nerves of the former; and when both sets of muscles are supplied from the same nerve, on those parts of it which belong to the flexors.

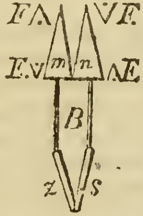
“ For each degree of excitability of the flexors, there is a stimulus which is sufficiently great, after the exhaustion of their excitability, to be able to act upon the opposite excitability of the extensors. The excitability of the former is *limited, conditional, and finite*, it admits of exhaustion, *i. e.* of a point where the excitable organ is capable of being fully saturated or neutralized by a stimulus, as a given quantity of + by a corresponding quantity of —. On the contrary, the excitability of the latter is *unlimited, unconditional, and infinite*, does not admit of exhaustion, *i. e.* of no point where the excitable organ is capable of being perfectly saturated or neutralized by its stimulus, as one finite magnitude by another. Hitherto, no galvanic, and what is the same thing, no electrical stimulus is known, than which a greater may not be found, capable of exciting motion after the former has ceased to act. A frog, which is exhausted to a pile of 1000 pieces, contracts with one of 2000. A pile of 1,000,000 is by no means the largest conceivable; and what had been dead for days to it, would still live to one of 2,000,000."

In the fifth section, *Professor Ritter* examines the modifications which the excitability undergoes, by the excitable organ remaining for a length of time included in a galvanic circle; and from many experiments he concludes, that the same muscles, on which any galvanic arc acts on opening or shutting it, continue to be acted upon while it remains shut; that the action consists in the exaltation or depression of the excitability of the organ; and, that the order in which the arc operates in exalting or depressing the muscles of the organ, is the same in which it acts upon them in general. For example, if a frog preparation, having only flexor-excitability, *i. e.* in the pure state *A*, be included for five or ten minutes in a zinc and silver galvanic arc, on opening it, the flexors of the zinc-leg are most violently excited; in the silver-leg, on the contrary, the excitability of the flexors is as much depressed. If the preparation be in the state *C*, the zinc-flexors and silver-extensors are exalted, while the zinc-extensors and silver-flexors are depressed. In *E*, the silver-flexors and zinc-extensors are deprived of all excitability; very slight contractions may sometimes be observed in the zinc-flexors, while the silver-extensors are exalted in the highest degree. These effects are distinctly shewed in the following diagrams, where ∧ indicates the exaltation, ∨ the depression of the excitability in the nerve, to whose initial letter it is affixed, and the size of the character the degree.

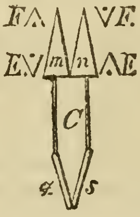
D. 28.



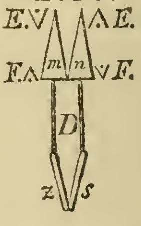
D. 29.



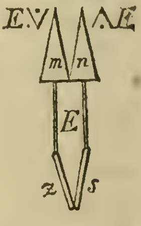
D. 30.



D. 31.

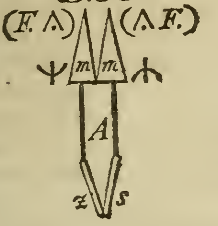


D. 32.

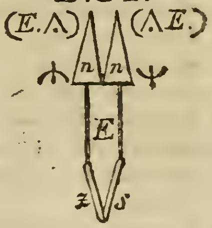


Thus, in the state *A*, *m* is exalted, and *n* depressed, the flexors are alone affected, and in neither is the state of the excitability altered. For, if we change the combinations in two such arcs, so that in the one, *D.* 33, we have two *m* s, and in the other two *n* s, we find, that in the former the flexors contract violently in *s m* on shutting, and in *z m* on opening the arc; while in the latter, the contractions are feeble in both cases. In the same manner the extensors are only affected in *E*. An arc of two *n* s scarcely contracts, either on opening or shutting it; but in one of two *n* s, *D.* 34. the convulsions in *z n* are violent on shutting, and in *s n* on opening the arc.

*D.33.*



*D.34.*

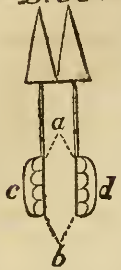


In the sixth section, our author proceeds to demonstrate the remarkable circumstance, that, in galvanic arcs, the flexors are excited only by the negative, and the extensors only by the positive pole. Only the contractions which take place on shutting the circle are the immediate effects of the galvanic stimulus, for those which take place on interrupting the circle are only caused by its ceasing to act. Now, in such arrangements as in *D.* 2. and *D.* 23. the flexors were only excitable by the negative or silver pole of the arc, or on the side next it; while in *D.* 6. and *D.* 27. the extensors were alone excited by the plus or zinc pole; and these poles are exactly those on the sides of the arc next to which muscles of the one or other kind are depressed. The contraction is, in fact, only the commencement of what is going on as long as the arc continues entire, and the depression is the natural result of the continued excitement.

On the contrary, those poles which excite no contractions, are exactly those on whose side the organ is exalted, that is, where an obstacle to the exhaustion of its excitability is present; and hence, on the removal of that obstacle, it acts with proportionately greater energy, or is exalted. Depression, then, consists in a greater consumption of the excitability, and exaltation in a less, than what would have happened without the influence of the galvanic arc.

If we examine all these diagrams, we shall now observe that flexors only contract from the galvanic stimulus, when they are so situated in a galvanic arc that the cerebral end of their nerve is next the silver, and their muscular end next the zinc, and extensors only in the opposite arrangement. Mr Ritter here explains the many apparent deviations which occur, in experimenting, from this general and very remarkable law, and concludes this section, with directions for preparing the extremities of frogs so as to be less frequently disappointed.

*D. 35.*



After preparing the sacral extremities of a frog, in the manner orginally directed by Galvani, Professor Ritter divides the portion of spine attached to them, longitudinally, removes the spinal marrow from both sides, with the scissars, and cuts off the spine as near to *a* as possible, when all those convulsive motions, which, till then, prevailed in the limb, immediately cease. These convulsions seem to result from the action of the air on the spinal marrow, for they are seldom observed when the nerves are divided.

Professor Ritter next examines, whether the same antagonism, discovered in the flexors and extensors of limbs disjoined from the animal, exists in the entire animal; and, from considering all the facts tending to decide the question, is of opinion that it does.

He then proceeds to prove the existence of two opposite kinds of excitability, one *finite*, and the other *infinite*, in nerves which do not terminate in muscles, but in the various organs of our senses. The effects produced on the sense of seeing, by applying the opposite poles to the eye, are collected in the following table:

| ZINC. | SILVER. |
|---|---|
| *On the contact of the metals,* | |
| Commencement of light in a positive state—Flash. | Commencement of light in a negative state—Flash. |
| *While they continue in contact,* | |
| Continuance of increased light. | Continuance of diminished light. |
| Blue spectrum. | Red spectrum. |
| Diminution of visible objects. | Enlargement of visible objects. |
| Less distinct perception of these. | More distinct perception of these. |
| *On their separation,* | |
| Cessation of positive light, and change to negative—Flash. | Cessation of negative light, and change to positive—Flash. |
| *After their separation,* | |
| Continuance of diminished light. | Continuance of increased light. |
| Red spectrum. | Blue spectrum. |
| Enlargement of visible objects. | Diminution of visible objects. |
| More distinct perception of these. | Less distinct perception of these. |
| Gradual extinction of all these phenomena. | Gradual extinction of all these phenomena. |

When both ears are in the circle, the sound heard corresponds with $\bar{g}$; when only one ear is connected with the apparatus, the positive pole gives a lower tone, and the negative pole a higher tone than $\bar{g}$, in proportion to the intensity of the galvanic action.

The *negative* pole excites in the nose an inclination to sneeze, and an ammoniacal smell; the *positive* suspends the inclination to sneeze, and excites a sour smell.

Applied to the tongue, the *positive* pole excites a sour taste, the *negative* an alkaline.

To the sense of touch, the *positive* gives a sensation of expansion, the *negative* of contraction, the *positive* of warmth, the *negative* of cold; and in all these cases, on interrupting the chain, all these phenomena are reversed.

If the galvanic energy be diminished, these phenomena are only altered in degree; but, on the contrary, if it be increased, the alteration which takes place in its action, is often not merely in degree, but also in kind. Carrying the experiments this length, however, is attended with much inconvenience, and is not free from danger. Mr Ritter advises any person who may attempt them, to reduce the irritability of the organ operated on, by first taking a number of single sparks, and with a weaker power, gradually increasing the time of contact and intensity of action. In this way, he has been able to support a degree of galvanic action sufficient to alter the phenomena in kind, when applied to the organs of touch, taste, and seeing, but not to the nose or ear. For example, if the eye be connected with the positive pole, with a weak action the spectrum is blue, with an increasing action it becomes successively greenish, yellow, &c. until it ends in a brilliant red; on interrupting the communication, it changes to a beautiful blue, which soon becomes greenish, dilute orange, and ceases by being red; if the connexion be with the negative pole, a greater intensity is required until the change of colour supervenes, but at last, instead of the red spectrum of weak action, we have a lively blue; and, on interrupting the connexion, successively red, a kind of green, and, lastly, dilute blue. It is remarkable, that although, by increasing the galvanic stimulus, the colour of the spectrum was reversed, the accompanying phenomena were directly increased, so that the relation of colour and luminousness in the spectra was also reversed.

| | *Positive Pole.* | *Negative Pole.* |
|---|---|---|
| Weak galvanism, | Blue, light increased, | Red, light diminished. |
| Strong galvanism, | Red, light more increased, | Blue, light more diminished. |

The flow of tears prevented the effect of an increase of galvanic action on the apparent size of visible bodies from being perceived.

In the further prosecution of this very curious subject, Professor Ritter exposed his eyes to an experiment which, we dare say, will never be repeated, and is too important to be passed over.

In a remarkably clear day, in the end of October 1804, with his eye mechanically kept open, he looked as steadfastly as possible at the sun; and notwithstanding the gradually increasing sensation in the bottom of the eye, as if it were in the focus of a lens, he continued to do so for 10, 15, and even 20 minutes. He then quickly fixed his eye on a piece of fiery red paper, 20 inches square. After some time he saw it of the deepest indigo, for at first he was blind. The edges then became paler; and after rapidly changing through shades of grey rather than green, they terminated in a pale red, which was very long of acquiring the intensity of the original colour of the paper. In the mean time, the red colour encroached more and more upon the blue spectrum, but towards the end of the experiment a new phenomenon occurred; in the middle of the blue circle a clear spot appeared, which gradually changed to a fiery yellow, and at last, resembling a brilliant round flame upon a blue ground, constituted a most beautiful phenomenon. This experiment was repeated with the other eye; but the paper used was blue instead of red. After an interval of blindness, it seemed rose coloured, which gradually changed to blue, but paler than the original colour of the paper. From the very commencement, however, in the middle of the red spectrum, there was a circle of deep blue, with a yellow point or flame in its centre, which also decreased in size, as the red spectrum contracted itself.

" We have found, that different excitabilities occur in all the senses; and that these different excitabilities are antagonists. One is conditional and finite. All stimuli act first on it; when they reach a certain determinate degree, they act upon the other, the opposite of the former, and produce opposite effects. Where stimuli either weaken much, or exhaust excitability, it is always the first, or conditional, which is exhausted; the second, or unconditional, remains alone—unless the action has been so violent, that it has reduced this second at the same time, at least to that degree, that stimuli of the intensity applied have no more action on it. Both excitabilities, therefore, have exactly that relation to each other, as in the case of muscles the excitabilities of the flexors and of the extensors and like these are inherent in the nerves. From this it follows, that in both cases, the excitabilities are the same, as well as their antagonism. Hence arises an unity in the type of all excitability in the animal kingdom, which must even exist, where the means of the physical experimentors are not adequate to its investigation. "

So far we have attempted to follow our author in the detail of his experiments, and in the very unexpected and important discoveries he has deduced from them; but in the succeeding chapters, in which he treats of the presence of antagonist excitabilities in inorganic nature—of magnetism and electricity as antagonists—of the relation of organized to unorganized matter—and of the relation of the earth to the sun, or of the cause of the periods of life, (das Zeitbestimmenden im Leben), he soars far beyond our capacities, and bids defiance to our language to follow him in his flights.

It is, however, impossible, not to admire the ingenuity with which he compares the successive periods in human existence, a single pulsation of the heart, a circulation of the blood, a day, a year, a lifetime, with corresponding periods in the cycles of inorganic nature, until, with an enthusiasm bordering, we had almost said, on delirium, he concludes,

"But the most perfect, the most sublime hieroglyphic of the earth is man. Last of all he proceeded from her bosom. Since that time, she has not again brought forth. He is the latest word she has uttered. Thus, his annunciations alone still correspond with the silent presence of his mother; and to him alone has it been reserved, as yet, to explain his own consciousness to her exposition. I myself confess, that I never would have subjected the great law of my Creator to particular inquiry, had I not previously felt it announced in my own breast. After discovering the measure of my own days, did I first proceed to explore those of the earth. I have found them—and also seen that even mine are included in them, at some distance. This convinces me also, in this point of view, that the earth, never at rest, is preparing herself for the generation of a new life; and in myself I already feel decay in the increase of my own. But sweet are these pains to the heart, and I ardently cherish them. What is the life of all, but its departure; and what its departure, but its return! Higher only, and more glorious does it return, and we with it; for the spirit in us is the same, which has hitherto invariably accompanied it from step to step, and will continue to follow it inseparably to all eternity."

## VI.

## *A Sketch of the Revolutions of Medical Science, and Views relative to the Reform.* By P. J. G. Cabanis, Member of the Natural Institute, &c. Translated from the French, with Notes, by Alexander Henderson, M. D. London, 1806. 8vo. p. 220.

The original of this very interesting work has already passed our ordeal; and certainly not one has come out more pure and unspotted. We have ventured to pronounce, that it will be received with gratitude and applause, by men of refined and cultivated minds, by the scholar, and the philosophical physician. It teaches us, indeed, but too plainly, that we have done those things we ought not to have done, and left undone those things we ought to have done; but not that there is no help in us.

The review of the revolutions of our science is calculated to inform us of our errors; and the philosophical views of our author, relative to the reform, may justly be regarded as the *novum organum medicinæ.* Disgusted with the selfish and narrow views of those who have so lately dignified with the name of medical reform, a pitiful plan for the good of the trade, the reader must turn with delight to the philosophical views of the eloquent Cabanis, views, which lead to the substantial reform of the science itself. We congratulate, therefore, the real friends of medical science, on the appearance of an English translation of the "Coup d'œil sur les revolutions, et sur la reforme de la medecine." But having already laid before our readers an analysis of the work itself, it only remains for us to do justice to the merits of the translator. We have seldom, indeed, seen a more successful translation than this. Dr Henderson has not only every where preserved the sense of his author, but he has preserved also his spirit, and we may add his eloquence; and this he has done so happily, that we forget we are perusing a translation.

The following observations of Cabanis on the relations of medicine and moral philosophy, which we also quote because of their intrinsic value, will enable our readers to estimate also the merits of the translator.

"The necessity of searching, in the physical constitution of man, for the means of directing and improving the human mind, is proved from the consideration of the circumstances that connect, with the developement of certain organs, the formation, and often sudden formation of certain propensities, and of the particular ideas that relate to these propensities; and from the attentive study of the moral effects produced by certain habits of regimen, by certain diseases, by certain original peculiarities of organization, or by certain accidental states of the living system.

"Take, for example, the infant whom the fickleness of his tastes hurries incessantly from one object to another. Do not his half formed manners, his lively but unconnected ideas, present a faithful copy, if we may so express ourselves, of the style in which nature has sketched the outlines of his life;—of his quick but imperfect digestion; of his frequent, unequal, and irregular pulse? Are not the characteristic features of the infancy of our physical frame all exemplified in the infancy of our moral constitution? And can we suppose that the latter will be affected by agents, that do not exert an immediate influence upon the functions of the different organs and general movements of the system?

"Observe that youth, who, haunted by a vague uneasiness, continually absorbed in reverie, and melted to tears by the sightest emotions, begins to find ideas in his imagination, and desires in his heart, which before were unknown. At the same time that the flame of passion is kindling in his breast, that his mind lays eager hold of every thing around it, and pursues every novel object, his stature, his features, manners, looks, and sound of voice, acquire a different character. His deportment becomes more firm and impetuous; his physiognomy, though still very delicate, assumes a more animated cast; his cheeks often change colour, his eyes express both desires, and the ignorance and uncertainty of their aim.—It is then only that nature makes him sensible to the language of passion, which speaks to his heart, and the knowledge and use of which he accordingly very soon acquires. Do not his ideas, his moral and his physical dispositions all evidently agree? and are not the changes that have made him in a manner a new being, solely dependent upon the developement of a system of organs, which, till then, had remained inert, and which, for the most part, had scarcely attracted his attention?

"Perhaps this period produces still more important and remarkable changes in females. In them, the relations of the moral and physical constitutions are distinguished by features apparently more delicate and superficial, but, in reality, more characteristic and profound. A young girl, whose organs begin to be roused from the dormant state in which they had remained during early age, does not move a step, does not speak a word, does not cast a look, that retains the character of infancy: the change is so evident, as to strike the most inattentive observer. The timidity, embarrassment, and caprice in her behaviour, which she in vain strives to conceal; her vague and uncertain looks, that give place to an expression which seems to dread discovery, and to a fire which breaks forth with more violence the more that she labours to disguise and conceal it; all these circumstances united can leave no doubt in the mind, with regard to the revolution in the system that has just been effected, with regard to that important operation of nature, which announces and produces changes of still more essential importance to the final accomplishment of her plan. That bosom, the undulations of which so often describe the affections of the heart, and which, at first sight, seems designed only for an object of soft desires, becomes now fitted, according to the admirable provision of nature, for preparing the food of a new being, whom these same desires are destined to call into life. Thus, a whole system of organs, the source of the most lively passions, and the influence of which not only modifies the other functions of the body, but also gives birth to so many new ideas and moral sentiments before unknown is, in the hands of nature, nothing more than the means by which she insures the indefinite duration of the human race.'

"Observe, too, in mature age, in what manner the regularity of the pulse, the permanent energy of the functions, and the inveteracy of the diseases of the system, correspond with a greater uniformity in the disposition, with the more steady ideas, and less lively, but more profound and indelible passions of manhood.

"On the other hand, take the frigid body of the old man, and mark if that regular but slow circulation, those blunt, and in a manner infantile sensations; those diseases, for the most part of a phlegmatic character, and of which nature seems hardly to dare to undertake the resolution, do not afford the faithful image of that tardy flow of ideas, of those puerile and irresolute desires, and of that repugnance to form designs which the individual cannot hope to accomplish, which all characterize the decline of life. In short, the physical constitution of the old man affords both the indication and the picture of a mind, which, contracting by degrees within itself, prepares for bidding a final adieu to existence, by the most lamentable of all sacrifices, by disengaging itself from its social affections.

" In the different asylums which have been instituted for the reception of lunatics, in those, too, which the legislature appropriates to the confinement of criminals, whose errors are but a species of insanity, you may find numerous proofs, perhaps still more striking, of those constant relations between the physical and moral constitution of man. From their inspection you may learn, that criminal habits, and aberrations of reason, are always accompanied by certain organical peculiarities, manifested in the external form of the body, in the features, or in the physiognomy. And you must remark, with the satisfaction which benevolent minds always feel at such a discovery, that these two species of disorders are frequently blended, and are always more or less intimately connected together.—I confine myself purposely to these most striking examples, the subjects of which are constantly before our eyes, and may be therefore so easily examined.

" The physiologist, then, will in future be obliged to collect with care all the facts relative to these points, which the study of man in a state of health and disease can supply, and their results will form the basis of all the moral sciences. Henceforth no one can, with propriety, undertake to illustrate these subjects, who is not possessed of an exact and circumstantial knowledge of the connexion between good or bad physical habits, and good or bad intellectual and moral dispositions. It is by these means alone, that we shall be able to learn how to improve the one by the other: it is upon these principles that we must found the rules of their improvement; whether we address ourselves merely to individuals, in order to teach them the art of augmenting their happiness; or point out to whole communities, the means of turning to the best account all the advantages of their lot. It is, in fine, according to such views, that we shall be enabled to trace, with certainty, the plan of a gradually increasing state of prosperity, of which men of reflection and philanthropy have hitherto, perhaps, only shewn the possibility, without forming to themselves a perfect idea of the means that ought to conduct mankind to it.

" The method of rational empiricism, which collects facts in order to class them, by pointing out the laws which govern their relations to each other, admits of a complete application to physiology. A number of observations have been already made:—these must be connected in a natural order. Others remain to be made:—and these we may sometimes indicate by anticipation. In particular, it is of importance to determine carefully, in what design, and by what methods, all inquiries of this sort ought to be made, so as to prove successful; and in what manner the conclusions ought to be deduced, so as to prove certain; by what characteristics we may be able immediately to recognize the accuracy of these conclusions; and in what manner it is expedient to connect them with those which already form the basis, or elementary principles of the science, in order that they may serve mutually to correct and illustrate each other." p. 307-13.

# PART III.

## MEDICAL INTELLIGENCE.

### *Medical and Chirurgical Society of London.*

The anniversary meeting of this Society took place on Monday, March 2d, at their apartments in Verulam Buildings, Gray's Inn, for the purpose of electing the Officers and Council for the ensuing year; when two of the Vice-Presidents, and six of the Council, having gone out by lot, the following Gentlemen were elected:—

William Saunders, M. D. F. R. S. Physician Extraordinary to the Prince of Wales, *President.*

*Vice-Presidents.*

William Babington, M. D. F. R. S. Physician to Guy's Hospital.
Sir Walter Farquhar, Bart. M. D. Physician to the Prince of Wales.
John Abernethy, Esq. F. R. S. Assistant-Surgeon to Bartholomew's Hospital.
James Wilson, Esq. Theatre of Anatomy, Windmill Street.

Astley Cooper, Esq. Surgeon to Guy's Hospital, *Treasurer.*

*Secretaries.*

John Yelloly, M. D. Physician to the General Dispensary and the Hon. Artillery Company.
Charles Rochemont Aiken, Esq.

Alexander Marcet, M. D. Physician to Guy's Hospital, *Foreign Secretary.*

*Council.*

Matthew Baillie, M. D. F. R. S.
Thomas Bateman, M. D. F. L. S. Physician to the Public Dispensary and the Fever Institution.
Gilbert Blane, M.D. F.R.S. Physician to the Prince of Wales.
Henry Cline, Esq. Surgeon to St Thomas's Hospital.
James Curry, M. D. F. A. S. Physician to Guy's Hospital.
John Richard Farre, M. D.
William Lambe, M. D,
James Moore, Esq.
Henry Revel Reynolds, M. D. F.R.S. Physician Extraordinary to the King.
James Shaw, M. D.
Christopher Stanger, M. D. Physician to the Foundling Hospital, and Gresham Professor of Physic.
H. L. Thomas, Esq. F. R. S.

*Quarterly Report of Diseases treated at the* PUBLIC DISPENSARY, *(near Carey-street), London, from 30th November* 1806, *to 28th February* 1807.

## ACUTE DISEASES.

| | No. of Cases. | | No. of Cases. |
|---|---|---|---|
| Quartana | 1 | Urticaria | 2 |
| Synochus | 22 | Erysipelas | 3 |
| Typhus | 7 | Herpes zoster | 1 |
| Febris puerperalis | 1 | Rheumatismus | 10 |
| Febris infantum | 4 | Arthritis rheumatica | 7 |
| Ophthalmia | 1 | Apoplexia | 2 |
| Catarrhus | 85 | Hydrocephalus | 1 |
| Peripneumonia | 11 | Dentitio | 2 |
| ——————— notha | 5 | Pertussis | 6 |
| Cynanche tonsillaris | 6 | Dysenteria | 15 |
| Scarlatina Anginosa | 1 | | |

## CHRONIC DISEASES.

| | No. of Cases. | | No. of Cases. |
|---|---|---|---|
| Cephalæa | 23 | Pleurodyne | 5 |
| Asthenia | 22 | Palpitatio | 2 |
| Dyspepsia | 12 | Hemiplegia | 1 |
| Gastrodynia | 11 | Hydrops | 6 |
| Hæmatemesis | 2 | Ascites | 3 |
| Hypochondriasis | 1 | Anasarca | 2 |
| Icterus | 2 | Amenorrhœa | 6 |
| Dolores hepatici | 5 | Menorrhagia | 4 |
| Enterodynia | 5 | Leucorrhœa | 11 |
| Diarrhœa | 11 | Dolores uteri | 6 |
| Ascarides | 3 | Cancer uteri | 2 |
| Lumbricus | 1 | Nephralgia | 9 |
| Constipatio | 3 | Dysuria calculosa | 4 |
| Marasmus | 12 | Catarrhus vesica | 1 |
| Hæmorrhois | 1 | Ischuria vesicalis | 1 |
| Catarrhus chronicus | 85 | Scrofula | 3 |
| Asthma | 2 | Contusa | 1 |
| Hæmoptysis and Phthisis | 25 | Scabies | 7 |
| Hectica adolescentium | 1 | Lepra | 1 |
| Chorea | 1 | Psoriasis | 2 |
| Hysteria | 3 | Impetigo | 9 |
| Epilepsia | 3 | Prurigo | 5 |
| Paralysis saturnina | 1 | Porrigo | 3 |
| Rheumatismus chronicus | 18 | Gutta roſea | 2 |
| Lumbago | 7 | | |

The same state of the weather, which prevailed during the latter half of November, continued, with scarcely any variation, through the whole of December, viz. a constant south-west wind; the temperature about 50° during the day, and not once descending, even in the night, to the freezing point; and there were only six or seven days of the month without rain. The new year commenced with eight days of moderate frost; but through the months of January and February, the weather, though subject to some great vicissitudes, has been above the medium temperature of winter. Frost and snow occurred three or four times, but did not continue above two days. On the 13th of January, in the evening, the thermometer stood at 13°, and some snow fell; on the 14th it rose to 47°; and on several days there has been a variation of 18 degrees in the 24 hours. The prevailing winds have been westerly, with some heavy gales.

The number of applicants at the Dispensary, during the last quarter, has been great, amounting to 547. It is worthy of remark, that during the uniformly mild and wet weather of December, only 142 of this number were put on the books, although observations on the *unwholesomeness* of the season were heard universally. During the vicissitudes of January, the number of applicants amounted to 217; and in February to 188; and this increase was chiefly owing to the increase of catarrhal and pulmonic affections. For the cases of pulmonic disease, treated in in December, were 42; in January 100; and in February 68 in number. These facts correspond with the observations of all intelligent physicians who have written on the subject, although diametrically opposed to the vulgar opinion. "No weather," Dr Fothergill has remarked, "is, in common, so little productive of acute and fatal diseases, as the *warm* and the *moist*, nor any so dangerous, in these respects, as the opposite *."

The metropolis continues almost entirely free from contagious diseases. A slight fever, of short duration, has prevailed, especially among young people, which I have noticed under the title of synochus. Slight headach and shivering, followed by a moderate increase of heat in the skin, and pains in the loins and limbs, the pulse being increased to 90 or 100, the tongue considerably furred, sometimes with a brown line down the middle, the bowels invariably disposed to constipation, and, in many cases, a slight tenderness of the abdomen on pressure, have been the symptoms which occurred in this complaint. In the majority of cases, one or two gentle doses of calomel completely removed

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* Observations on the Weather and Diseases, Dec. 1757.

ed the disorder in three or four days. In a few, it has continued for two or three weeks; and, in one or two instances, without putting on the typhoid appearance, it extended to two, three, or more, individuals in a family. Four of the cases, denominated typhus, were nearly of this sort in the beginning; and occurred in four children, two of whom were attacked about three weeks after the other two. A fifth case of typhus, was apparently the consequence of a gangrenous ulcer on the leg. It is extremely difficult to decide on the probability of any case of fever extending itself by contagion; since this tendency is not proportionate to the malignity of its symptoms. I have several times had occasion to observe sporadic cases of typhus, which have terminated fatally, from which no second individual suffered, even in a close apartment; while in others, in which the sensorium was never affected, nor the tongue foul, the disease has spread through a whole family in succession.

The smart frosts, short as their duration was, proved fatal to some of those who are subject to returns of pulmonic complaints in the winter. After suffering a few days under their usual cough and dyspnœa, by accidental exposure, or by a sudden change of the atmospheric temperature, a low inflammation is induced, which speedily goes on to an effusion into the cells of the lungs. The breathing becomes necessarily short and laborious, and is performed with great heaving of the ribs and shoulders, from an endeavour to enlarge the chest in all its dimensions. The countenance, which is sometimes slightly flushed, but commonly of a dirty, leaden hue, is expressive of extreme anxiety and distress. The pulse is rapid, small, and oppressed. The skin is cold, and slightly damp. The patient complains chiefly of a sense of suffocation and stricture in the chest, and sometimes of severe head-ach; but is, in some cases, unable to refer his sufferings to any particular part of the body, a circumstance which affords a very unfavourable omen. He labours much with his cough; but the expectoration affords him little relief. If the symptoms are not speedily relieved, the disease terminates fatally, sometimes within forty-eight hours from the commencement of the inflammatory action. A large blister, early applied, frequently stops the progress of the complaint; but in the latter stage of it, the skin is not easily acted upon by the stimulus of cantharides; in a great number of instances which I have seen, under these circumstances, blisters have failed in their operation, or only produced a vesication after a second or third has been applied. As general blood-letting is prohibited by experience in such cases, the failure of a blister is always unfavourable; partly because time is lost, and partly, because it implies an advancement of the disease to an unmanageable condition.

A considerable number of cases have occurred, in which a pain of the head was the most distressing symptom. In the majority of these cases, the headach was connected with a derangement of the stomach or the bowels ; as costiveness, indigestion, gastrodynia, &c. The pain, in these cases, is generally fixed in the forehead, or at the occiput ; sometimes relieved, and sometimes aggravated, by taking food ; but is generally worst in the morning ; and often continues, with slight irregular remissions, during the day. It is generally relieved by cardiac medicines, combined with a neutral salt, or aided by calomel. In some instances, the pain was obviously a rheumatic affection of the integuments of the head, or the pericranium. The pain is more generally diffused in these cases, affecting every part of the head, or the whole of one side of it ; the integuments are usually tender, and the action of combing is painful. This headach is often increased in the night, and frequently connected with pains in other parts of the body. In one instance, when the pain was removed from the head, a similar pain attacked the pectoral and intercostal muscles, which, like the former, was removed by the ordinary remedies of rheumatism. Another species of headach accompanies that state of nervous languor in the constitution, which is termed asthenia. The pain, in such cases, is often a throbbing or shooting pain, and is accompanied, or alternates, with vertigo, tremors, and faintness, with a sense of sinking at the præcordia, low-spirits, and cold perspirations. Volatile medicines, with cordials and bitters, are the most efficacious remedies. A headach of this sort is a frequent concomitant of chlorosis.

At the beginning of the year, a general alarm spread through the metropolis, in consequence of reports that a number of people had been bitten by mad dogs. The alarm was probably not altogether destitute of foundation ; but, as is usual in such cases, the reports were monstrously exaggerated. Only one authenticated case of hydrophobia in the human subject has come to my knowledge ; an account of which was drawn up by the apothecary who attended, and transmitted to the Medical and Chirurgical Society by Mr Hatchett, who also saw the patient. The case occurred in a girl at Hammersmith, about six weeks after the bite, and proved fatal on the third or fourth day.

*London, Feb.* 28. 1807. T. BATEMAN.

MEDICAL

# MEDICAL REFORM.

"*To Dr* HARRISON.

"SIR,

"I am directed by the King and Queen's College of Physicians in Ireland, to transmit to you the enclosed copy of a Report made to them by a committee of their members, to whom were referred your letters, and the plan of medical reform; and I am desired to request, that you will be pleased to consider the said Report as expressing the opinion of the College on that subject. I have the honour to be, Sir, your most obedient humble servant,

"HUGH FERGUSON, Register.

"By order of the King and Queen's
"College of Physicians in Ireland.
"*Dublin, December* 12, 1806."

## "REPORT.

"Your Committee, having taken into consideration the papers received from the meeting of the Faculty held at the house of the Right Hon. Sir Joseph Banks, beg leave to report, That

"The important connexion which subsists between the due exercise of medicine and the health of the public, with the experience of those countries where the progress of medical science appears to have kept pace with the protection afforded to its cultivators, evidently point out that medicine should be professed by persons *suitably* educated; and that the branches of physic, surgery, and pharmacy, should be practised, as far as existing circumstances will admit, distinctly from each other.

"But it is evident that complete irregularity prevails, both in profession and practice; for not only is the necessary separation of the profession little observed; but also persons who have not received any education to qualify them for the exercise of the subordinate branches of medicine, act as physicians, to the injury of the public, and well instructed practitioners; and that, though means have been successfully devised for protecting from encroachment the professions of law and divinity, that of physic is still open to every intruder.

"Your Committee beg leave to state the irregularities which appear to them to exist in the practice of medicine, the causes and injurious consequences of such irregularities, and the means necessary for their correction or removal.

"The principal irregularity seems to originate from a want of a proper discrimination between the respective duties and privileges of physicians, surgeons, and apothecaries; and from the intrusion of empirics, who exercise, with little controul, the duties of *all* the professions.

"In Ireland, surgeons are very generally employed in medical cases, though they often, from the peculiar and necessary mode of their education, are not qualified for such practice. In many parts of the country, hardly any distinction is made between the physician and the surgeon. In Dublin, also, although this evil does not exist in the same degree, yet the surgeon practises in cases purely medical, claims the treatment of diseases formerly considered to lie within the province of the physician, and thinks it his right to be called in to consultation in cases strictly medical, where the physician was first employed, thereby affecting to controul his practice.

"Apothecaries also continually act as physicians, and receive fees, which are regularly stated by their corporation, with injury to the public, and regular practitioner, since their education is limited almost totally to the operations of pharmacy, and cannot qualify them to distinguish and treat diseases; and their absence from their proper business, while engaged abroad, frequently defeats the intention of the physician towards his patient, by occasioning various neglects in the preparation of medicines.

"With regard to quacks, whose gross ignorance is notorious, though their number is not so great in this country as in England, yet they do much mischief, by imposing upon the credulity of the ignorant, and distributing their nostrums.

"Other irregularities remain to be mentioned, arising from the improvident facility with which degrees are obtained from certain Scotch universities, upon a certificate merely, and without any previous education. The same evil prevails with respect to testimonials, so readily granted to accoucheurs, unqualified to practise medicine, from lying-in-hospitals and teachers in midwifery, who thus acquire certain introduction to families and general medical practice.

"The causes of these irregularities seem to your Committee to arise, 1st, From want of competent restrictive powers in the College of Physicians in Ireland to prevent the intrusion of unqualified persons into the practice of medicine.

"2dly, The almost exclusive possession of county hospitals, and other charitable medical institutions, by surgeons who, through parliamentary arrangements, are made necessary to such establishments, and their attendance insured by salaries; although it appears, upon inquiry, that a very considerable proportion of the diseases admitted there are purely medical, and therefore such as the surgeon, by his education, has not been instructed to treat.

"3dly, A want of the appointment of physicians to the medical charitable institutions, conjointly with the attending surgeons.

"4thly, A want of the appointment of physicians in the army medical department, to act conjointly with the surgeons, who, by filling solely such situations, have acquired an undue influence over the leading men in the country, who hold military stations.

"5thly, The want of a medical hall, library, and endowments, similar to those of the College of Surgeons, where physicians might meet, to forward the purposes of medical knowledge, and promote the general interests of the profession.

"6thly, The granting of licenses or certificates by teaching, in midwifery (which in their operation become virtually diplomas), importing that those who have such, are entitled to act as accoucheurs, although they may not have received a regular professional education, or possess any legal qualification authorizing them to practise either medicine or surgery.

"7thly, The want of a regular inspection of medicines, weights, and measures, kept in apothecaries' shops, by physicians appointed to discharge that duty.

"8thly, The want of properly defined laws in charitable institutions for regulating the admission and discharge of patients, and for discriminating between medical and surgical cases.

" Serious consequences will be the result of the abuses now stated; the public interests will materially suffer, since it must happen, that from incapability of discriminating without a guide to direct, and imposed upon by that presumptuous confidence which too frequently accompanies ignorance, individuals will confound the unqualified pretender with the informed and well educated physician; that practitioners of regular education and correct manners, will be deprived of that public confidence to which they are so justly entitled; and that medicine will gradually cease to be considered as an object of pursuit deserving the attention of men of scientific acquirements or mental ability; and that a profession hitherto deemed liberal and honourable, which has materially benefited mankind by important discoveries and improvements, is in danger of sinking into decline.

" The remedies for such important evils are to be sought for by means likely to gain the approbation of the public, without which, nothing effectual can be accomplished. Your Committee, therefore, propose,

" 1st, That the powers of the College of Physicians be extended, by obtaining the ratification of their charter by act of Parliament, the provisions of the charter being so modified as to meet the existing difficulties.

" 2dly, The adoption of article 1st of Dr Harrison's Plan, which limits the practice of medicine to graduates in medicine.

" 3dly, The holding out inducements to country practitioners to become licentiates of the College of Physicians. Physicians so licensed, to be entitled Extra-Licentiates.

" 4thly, The publication of a list twice in the year, of all those who have become licentiates, or extra-licentiates, in six or more newspapers through the conntry.

" 5thly, The adoption of means likely to procure the appointment, to county hospitals, and other charitable institutions, of physicians, members of the College, in conjunction with the surgeons, and to insure the attendance of the physicians by salaries.

" 6thly, A parliamentary grant for completing an hospital, in which clinical lectures, subservient to a school of medicine, may be given, and in which a library may be established for the use of students, conformable to the tenor of the act 40th of the King (1800); the fund appropriated by that act having hitherto proved insufficient for those purposes.

" 7thly, The appointment of physicians in the army medical department in Ireland.

" 8thly, The providing a hall, for the members of the College to meet, furnished with a library and other means of promoting medical science.

9thly, That no man should practise midwifery who is not regularly educated as a physician, surgeon, or apothecary, according to the new regulations; who shall not have practised half a year in a lying-in-hospital; and who shall not have received a license from the College of Physicians for that purpose.

" 10thly, The appointing of inspectors of apothecaries' shops, from among the members of the College of Physicians; so modifying the obligation to be taken by them as to suit it to present circumstances.

" 11thly, That the exemplification of patents for quack medicines be regulated otherwise than heretofore; that the Colleges of Physicians be made acquainted, in a satisfactory manner, with the composition of the preparation; and that the patentee shall have the exclusive right to the profits of the sale, but for a limited time.

" 12thly, The adoption of rules for the admission and discharge, with regularity, of patients, in medical and other charitable institutions, and for discriminating between medical and surgical cases.

" Your Committee have thus stated the principal irregularities which prevail in medical practice; their causes, and the means which seem to them necessary for their correction. They conclude by observing, that however great the abuses, or deep laid the causes which produce them, much may be done towards their removal; and, to this end, they are confident, that present circumstances will materially contribute, if assisted by co-operation and unanimity among the members of the medical profession."

# VACCINATION.

## *Public Dispensary, Edinburgh. Report of the Surgeons of the Vaccine Institution.*

The Surgeons of the Vaccine Institution have much pleasure in laying before the Managers the following statement of the gradual increase of vaccination at this establishment. There were inoculated,

| | |
|---|---|
| From February 1801 to February 1802, | 506 |
| Ditto 1802 to Ditto 1803, | 698 |
| Ditto 1803 to Ditto 1804, | 1090 |
| Ditto 1804 to Ditto 1805, | 1429 |
| Ditto 1805 to Ditto 1806, | 1654 |
| Ditto 1806 to Ditto 1807, | 1763 |
| Total | 7140 |

Of those inoculated during the latter years, many are the children of parents who had others also inoculated at this institution two, three, four, and five years ago. These parents have informed us, that their children have been often exposed to the contagion of the natural small-pox, since being vaccinated, without being infected, or suffering the smallest inconvenience, especially about twelve months ago, when that disease was very frequent in many parts of this city; and they further inform us, that these children have never had any obstinate eruptions, or any other complaint, which could be attributed to the cow-pox.

The surgeons beg leave to call the attention of the managers and of the public, to the discoveries made at this institution, in the mode of conducting the inoculation of cow-pox, more particularly in the mode of propagating the cow-pox, by using the crust of the vesicle after it falls from the arm; and in the mode of ascertaining a constitutional affection by a double inoculation; both of which are detailed at length by Mr Bryce, in his observations on the cow-pox, published in 1802. By using the crust, the cow-pox has frequently been renewed at this institution, when the fluid virus had been lost, from the non-attendance of the children at the proper
period

period for taking it; and it appears, from a report by Mr Shoolbred of Calcutta, that, by this mode of using the crust, the cow-pox had also been renewed at the different out-stations in the province of Bengal, at Prince of Wales's Island, and at Fort Marlborough, when the virus had been lost, and every mode of transmitting it from Calcutta had proved ineffectual.

Concerning the test of a constitutional affection, our daily experience convinces us of its great practical utility, and renders us anxious thus to recommend its general adoption, in conducting the Vaccine Inoculation.

Wm. Farquharson,
James Bryce,
A. Gillespie,
J. Abercrombie, } Surgeons.

*Edinburgh, Jan.* 31.

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Among various documents upon the progress of vaccination in the British and Portuguese settlements in India, communicated by several English physicians to Dr De Carro, there is a translation of the following letter, written in the Tamul language, by a *Bramin*, to Dr Anderson, Physician-General at Fort St. George.

"Honoured Sir,

"I beg leave to observe, for the information of the natives of the country, that I have perused the papers which you have published on that wonderful, healthful, and immortal vaccine matter, discovered on the nipples and udders of some cows in England, by that illustrious physician Dr Jenner, whereby the loathsome, painful, and fatal small-pox has been prevented from seizing many of our fellow-creatures in India, as well as in Europe.

"I am an eye-witness, as well as many others, that numbers of children here have been inoculated with vaccine matter, without any injury or blemish whatsoever, excepting a small spot at the place where the matter is applied, which is commonly on the arm. It is, therefore, greatly to be wished, that an intimate knowledge of this wonderful discovery may be acquired by the natives of this country, so as to enable them to save the lives of the rich and honorary, as well as those of low cast.

"On this account, it might be useful to remove a prejudice in the minds of the people, arising from the term *cow-pox* being literally translated *comary*, in the advertisement published in our Tamul language, whereas, there can be no doubt that it is a drop of nectar, from the exuberant udders of the cows in England, and nowise similar to the humour discharged from the tongue and feet of the diseased cattle in this country.

"I remain," &c.

"Mooperal Streenivasachary."

Dr De Carro knows that vaccine matter has been several times sent from Madras, and other towns of India, to China, but no direct account of its having reached its destination has yet come to him. The first is to be found in a letter of Dr Anderson to the Rev. Mr Dubois, which is not very favourable: "Having sent," says he, "copies of the same papers which you have received to Mr Drummond, chief supercargo at Canton, I understood, though not from himself, that the Chinese received the information of exterminating the small-pox with abhorrence, exclaiming, that they did not wish to be deprived of a disease, which was absolutely necessary to spare them the painful task of exposing their helpless infants to be devoured by wild beasts."

## *Extract of a Letter on the Proposed House of Industry at Nottingham.*

"In a populous manufacturing town, a house of industry must always be an object of much importance. In Nottingham, the insufficiency of the present retreat for the poor, has long been a matter of much regret; many charitable and well disposed persons have now offered their assistance to remedy this inconvenience, by erecting a House of Industry upon a liberal and extensive scale; and to render their work as perfect as possible, they are anxious for the advice and opinions of those most conversant with institutions of this kind. Remembering to have seen, when in Edinburgh, the new Bridewell; and hearing of the excellent system on which other charities in that city were conducted, I am induced to ask of you, either the plans, or the means of procuring the plans of these institutions, both in respect to the external as well as internal management, as any remarks on institutions of charity in general, will be thankfully received.

"I think a request for communications, inserted by the Editor under the article of Medical Intelligence, would procure many valuable observations from your correspondents: it is intended to arrange the medical department with much caution and attention to the welfare of the objects of the institution."

In compliance with the request of our Correspondent, communications on these interesting subjects may be addressed to the care of the Editors of this Journal.

## *Literary Notices.*

Dr Bardsley, physician to the Manchester Infirmary, has in the press, "Clinical Histories, chiefly derived from Hospital practice; to which is added, an Inquiry into the Origin and the Means of extirpating Canine Madness from the British Islands."

Early in the month of April will be published, handsomely printed in four volumes octavo, the Code of Health and Longevity: or, a Concise View of the Principles calculated for the Preservation of Health, and the Attainment of Long Life; being an attempt to prove the practicability of condensing, within a narrow compass, the most material information hitherto accumulated, regarding the different arts and sciences, or any particular branch thereof. By Sir John Sinclair, Bart.

This day is published, price 4s. in boards, Strictures on Mr Parkinson's Observations on the Nature and Cure of Gout, recently published in opposition to the Theory that proposes the cooling Treatment of that Disease: To which are added, in an Appendix, two Letters, addressed to Dr Haygarth, containing Remarks on the Opinions he has lately published on Acute Rheumatism, the use of Cinchona or Peruvian Bark in that disease, and on what he terms "Nodosity of the Joints." By Robert Kinglake, M. D. member of the Royal Medical Society of Edinburgh, of the Royal Physical Society of Gottingen, author of a Dissertation on a New Theory of Gout, &c. &c. and physician at Taunton.

*Communications may be addressed to the Editors of the Edinburgh Medical and Surgical Journal, to the care of Messrs Constable & Co. Edinburgh; Mr John Murray, Fleet Street, London; or Messrs Gilbert and Hodges, Dublin.*

*No. 11. will be published on the first of July.*

THE

# EDINBURGH

# MEDICAL & SURGICAL JOURNAL.

1. JULY 1807.

## PART I.

## ORIGINAL COMMUNICATIONS.

## I.

### *Biographical Sketch of Camper.*

PETER CAMPER, a celebrated anatomist, physician, and surgeon, was born at Leyden in 1722. His father was a clergyman, and his grandfather practised physic, at Leyden, where his family had long held the most distinguished offices in the magistracy. Although his father was by profession a divine, yet his inclination led him to the study of philosophy and the fine arts; and he lived in habits of intimacy with the most distinguished men of his time. Boerhaave, Gravesande, Muschenbroek, and De Moore, were his particular friends; and amidst such characters as these, the subject of this biographical memoir was brought up. Camper was blessed by nature with a good constitution; and he was greatly indebted to the fortunate circumstances which placed him in the midst of so many eminent examples. He was early placed by his father under the De Moores (the father and son), to learn the art of designing and painting, of which he afterwards availed himself so frequently in his anatomical pursuits, as he was sufficiently qualified to make drawings of such anatomical preparations and figures as he chose to have engraved. Most of those who cultivate natural history, are obliged to trust to others for representing what they have seen, hence numerous inaccuracies arise: But Camper observed for himself, and he made drawings of what he saw, so that in his plates, as well as in his descriptions and in his discourses, it is always *he* who speaks, it is always his own idea that is presented to the mind. The advanced age of Boerhaave, and the infirmities which afflicted him during the last eleven years of his life, prevented him from being the teacher of his friend's son. Instead of Boerhaave, however, Gaubius, Van Rooyen, and Albinus, were Camper's masters. In 1746 he took the degree of doctor in philosophy and medicine; and the two inaugural dissertations which he published at that time, are well spoken of by Baldinger and Haller. In one, he declares himself an advocate for Smith's theory of vision; and in the other, he describes the canal of Petit in the eyes of different animals; in both, he displayed his knowledge of anatomy, and showed, that to this he united an acquaintance with physics and the fine arts. In 1748 he set out on his travels, and came to England. The most eminent men in London, at that period, showed him great attention—many of them became his teachers. He attended the hospitals, and lectures on anatomy, surgery, midwifery, and botany; and he visited the most distinguished characters both at Oxford and Cambridge. Having spent a year in this country, he went to Paris, where he applied himself with the same diligence in improving his knowledge of his favourite studies, and in forming connexions with the principal men whose pursuits were similar to his own. He visited the most famous schools in Germany; and made himself acquainted with authors as well as with their works. He travelled in Switzerland; and he made himself known to every learned society in Europe. He was an honorary member of the Royal Society of London, and afterwards fellow of the Royal Society, and of the College of Physicians at Edinburgh, of the Royal Academy of Science at Paris, of the Imperial Academy at Petersburgh, and of the Royal Academy at Berlin, to most of which societies he had sent communications.

Whilst he was on his tour abroad, he was appointed professor of philosophy, medicine, and surgery, at Franeker; and in 1755 he was translated to the chair of anatomy and surgery at Amsterdam; but he quitted this situation in a few years, and retained the title of honorary professor in that place. He passed two years at a country residence in Friesland, and was then nominated professor of medicine, anatomy, surgery, and botany, at Groningen, where he lived till 1773. In order to superintend the education of his children, he removed to Franeker; and he died at the Hague of a pleurisy, in 1789, at the age of 67. Public affairs engaged a considerable share of Camper's attention, during the political troubles in Holland. He was called by his countrymen to fill different civil offices; and, in the latter years of his life, he was nominated one of the Council of State, and was therefore obliged to live at the Hague. It is customary in foreign universities, for the professors to deliver a discourse when they enter upon their academical office. The productions of Camper in this style, are remarkable for their ingenuity and extensive research. Most of these have been published by his son; and we are informed, that it was a favourite wish of the author, to extend the subjects of these lectures much farther than he has done, and to illustrate the various positions by a regular series of drawings; but he seems to have been diverted from these noble projects, by the hurly-burly of politics, and by an ardent thirst for *present* reputation. Such was his fondness for fame among his contemporaries, that he often relinquished important subjects, on which he was engaged, to write answers to the prize questions proposed by almost all the societies on the Continent, and his ambition was gratified with the honorary reward; the victory was easily won, when so few competitors entered the lists with him. Scarcely a subject was started which did not excite his attention; the successful labours of Pallas, Monro, and Buffon, urged him to study comparative anatomy, and natural history; and so fertile was his genius, that he once accepted a challenge to compose an interesting essay on the shape of a shoe. He pleaded the example of Xenophon, who has transmitted to posterity some judicious remarks on the mode of preserving the feet of horses; a physician, therefore, he said, might very well devote some of his time in investigating what relates to the feet of mankind. In this essay, he has introduced a variety of useful and entertaining information; and by considering the human foot as an anatomist, a mechanic, and a painter, he has shown how much may be made of any subject, however unpromising, in skilful hands. His works, relating to natural history, physiology, and comparative anatomy, have lately been collected, and published at Paris, in 3 vols. 8vo. with a folio atlas of plates, under the title, "Œuvres de Pierre Camper qui ont pour objet l'Histoire Naturelle, Physiologie, et l'Anatomie Comparée. 1803."

The first of these volumes contains an account of his life, by his son; a dissertation on the orang-outang, and some others of the monkey tribe; a memoir on the double-horned rhinoceros; another on the rein-deer; and conjectures relative to some petrified bones, found in the mountain of St Pierre near Maestricht, which he considers as the bones of fish. In his account of the orang-outang, Camper remarks, that immediately below the skin and platysma myoides, two bags made their appearance on each side of the windpipe, the right extending over the clavicle, the left being much smaller. These bags were empty, and each of them communicated with the cavity of the larynx, by an opening, that passed between the thyroid cartilage and the os hyoides, terminating at the side of the epiglottis. Some species of monkey had one bag of a similar kind; but the possession of two is considered peculiar to the orang-outang. This structure seems to have been known to Galen; but its uses are still unknown, except that the cavities can be filled with air, and compressed at the will of the animal. A similar conformation was observed by Camper in the rein-deer, which points out a remarkable instance of analogy, between two animals apparently so very remote. The second volume of this collection is chiefly occupied with an interesting account of the elephant; next follow two essays, on the physical causes which render man subject to more diseases than other animals, and on the means of establishing health, which can be derived from comparative anatomy; and on the origin and colour of the negroes. The learned professor adopts the theory of there being only one pair originally; and he ascribes the colour of negroes to the long continued influence of climate in which they lived, to the food by which they were nourished, and to diseases to which they are subject. The third volume comprehends lectures on the epidemic diseases of horned cattle; a dissertation on the physical education of children; lectures read to the academy of painting; an account of the generation of the pipa, or American toad; observations on the croaking of male frogs; and an account of the structure of the bones in birds.

The great work, however, which Camper begun, makes us regret that he did not fulfil his intention of finishing an undertaking of such great magnitude and importance to pathology; only two parts were published, these are entitled, "Demonstrationum Anatomico-Pathologicarum, liber primus, continens brachii humani fabricam et morbos, in folio maximo cum quatuor figuris." Amstel. 1760; and, "Liber secundus, continens pelvis humanæ fabricam et morbos," 1762. The plates, which are highly commendable for their usefulness and accuracy, are from drawings made by the author. A posthumous work on hernia, edited by the celebrated *Soemmering*, "Petri Camperi Icones Herniarum," bears the same honourable testimony to the accurate and scientific delineations of his pencil, which place Camper on the foremost gound, as a model for imitation, by all who profess to illustrate the intimate relation that subsists between a minute knowledge of anatomy, and the pathology and practice of surgery. In the tenth volume of the London Medical Journal, for 1789, there is a translation of a paper of Camper's, published in a Dutch journal, giving " An account of a method of performing the operation of lithotomy at two different times," which was communicated to him by M. Louis, who asserted, he had not lost a single patient since he had adopted this mode of operating. The peculiarity of this method consists in dividing the operation into two stages; on the first day, the surgeon makes his incision into the bladder, the patient is then put to bed, and the extraction of the stone is deferred until the second, third, or fourth day. By this delay, the stone was supposed to be taken away with greater facility, and with less pain to the patient; but the dangers are infinitely more than any hypothetical advantages attributed to this practice, and besides, such hazardous procrastination is quite unnecessary in the present improved method of performing the operation of lithotomy. This method is not new; it had been recommended more than two centuries ago, by Peter Franco, and was deservedly laid aside, in consequence of the inconveniences attending it.

Another surgical treatise was published at the Hague in Latin, by M. A. G. Camper, in 1789, after the death of his father, entitled, " A Dissertation on the Fracture of the Patella and Olecranon." 4to. The object of this dissertation is to inquire into the various circumstances attending fractures at the joint of the knee and the elbow; it is enriched with numerous cases and quotations, and references to the most celebrated authors on the subject, and it is accompanied with two plates.

The remaining works of this celebrated man, which merit particular attention, relate to the fine arts. Painting, and whatever was connected with that art, were the favourite amusements of his earliest years; to draw and to model in clay, were the recreations of his childish hours; and he was led to pay more than ordinary attention to the characteristic differences in men and animals, not only because they appeared to him the most interesting objects in nature, but because they were intimately related to the rest of his favourite pursuits. His two principal works have been published by his son; the first, entitled, "Verhandeling Van Wylen Petrus Camper," &c. *i. e.* "Treatise by the late Peter Camper, on the natural difference of features in persons of various countries and ages; and on beauty, as exhibited in ancient sculpture and engravings; with the description of a method of delineating various sorts of heads with accuracy." This book, published at Utrecht in 4to. 1791, has been translated into English, under the title of " Connection of Anatomy and Design," by Dr Cogan. 4to. 1794. To understand the principles of the author, and his ingenious illustrations, it is necessary to read the whole work, and study the plates which belong to it. It contains a fund of useful information; and like his other work, published the following year, it affords great variety of entertainment. "Reden voeringen Van Wylen Petrus Camper," &c. *i. e.* "Lectures of the late Peter Camper, on the manner of delineating the different emotions of mind in the countenance; on the striking resemblance between quadrupeds, fowls, fishes, and the human species; and on the constituent beauty of form. Illustrated by plates."

Of his private life there is little known, except that he had a family of children, with whom he used to make short excursions into different parts of the country, and kept a journal, in common with them, to register all the events and circumstances that occurred in these domestic parties. He seems to have followed the common route among men of letters, and left few memorials of his happiness or misfortunes. We are told, that he incurred the displeasure of some of his countrymen, for not doing enough for the cause of liberty and independence, amidst the factions in the state; and his public distinctions and honours were productive of more uneasiness than pleasure. When a man of science devotes himself to the service of the public, his enemies often blame him for not doing enough, and his friends lament that he did not live longer for the cause of literature, because he took too great a share in the troubles of his country.

## II.

## *History of a Case of Introsusception, with Remarks on the Complaint.*

By Mr George Langstaff, Surgeon, London.

The small intestines of children are so often affected with introsusception in a slight degree, that most practitioners must have had opportunities of observing this form of the complaint. The greatest part of three hundred children who died, either of worms, or during dentition, at the Hospital de la Salpetriere, and came under the examination of Mr Louis, had two, three, four, and even more volvuli, without any inflammation of the parts, or any circumstances leading to a suspicion that these affections had been injurious during life.

"These cases," says he, "seem to prove, that introsusception may be formed, and destroyed again, by the mere action of the intestines [*]." This opinion is confirmed, by the authority of Dr Baillie [†], who observes, that "in opening bodies, particularly of infants, an intus-susceptio is not unfrequently found, which had been attended with no mischief; the parts appear perfectly free from inflammation, and they would probably have been easily disentangled from each other by their natural peristaltic motion."

The disease assumes a more dangerous, and indeed generally a fatal form, when it occurs at the termination of the small intestines in the cæcum. A contracted state of the part to be introsuscepted, and a dilatation of that portion of the canal into which this part must pass, are essential conditions to the formation of a volvulus; and those exist nowhere so completely as in the situation which is here alluded to. The extent to which the affection proceeds in this situation would appear almost incredible, if it were not proved by numerous well authenticated facts. A person, who considered the natural situation and connexion of the parts, would of course require the strongest evidence, before he would believe that the ilium, cæcum, ascending and transverse portions of the colon, may descend into the sigmoid flexure of the latter intestine; nay more, that they may pass through the rectum, and be protruded in the form of a procidentia ani. Such cases, however, are recorded, and the instance which will follow, adds another to the list [‡].

Case.—A fine healthy child, three months old, belonging to Mrs Melton, 62, Brick Lane, St Luke's, was suddenly seized, on the 10th of January 1807, with griping pains in the bowels, violent vomiting, and frequent propensity to void its stools. An apothecary, who was immediately sent for, ordered some aperient medicine, and warm fomentations to the abdomen.

All the symptoms were much aggravated on the next day, and nothing but blood and mucus passed by the anus. The sufferings of the child appeared, from its cries, to be excessive; nothing was retained on the stomach; a hard tumour could be felt on the left side of the abdomen; and the intestine protruded to some

distance

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[*] Memoires de l'Academie de Chirurgie. 4to. ed. Tom. IV. p. 222.

[†] Morbid Anatomy, 2d ed. p. 162.

[‡] A case of procidentia ani, from introsusception, beginning at the valve of the colon, is related in the Edinburgh Physical and Literary Essays, Vol. II. p. 356: and another is recorded in the Memoires de l'Acad. de Chir. Tom. IV. p. 223.

distance from the rectum, as it was supposed, in consequence of the frequent efforts to void the contents of the bowels. The vomiting, the discharge of blood and mucus *per anum*, and the other symptoms, continued with unabated violence until the 15th January, when the child expired.

I opened the body, in compliance with the mother's request, and met with the following appearances:

It seemed that the cæcum, with the ascending, transverse, and descending portions of the colon, was entirely wanting. The ilium terminated in the sigmoid flexure of the colon, which felt externally like a solid body. The small intestines were considerably distended with fluid excrementitious matter, and appeared in an inflamed state.

On examining the sigmoid flexure, which was the containing intestine, I found that it enveloped a considerable portion of ilium, together with the cæcum and colon, in an introsuscepted state.

This, no doubt, had formed the procidentia ani; but in removing the diseased part, which the presence of the mother obliged me to do in an incautious manner, I unfortunately left a portion of the introsusception behind.

The invaginated intestine was highly inflamed; and its coats in one part had given way; and coagulable lymph, which had become organized, had been thrown out on several parts.

The present case was, however, somewhat more complicated than volvuli usually are; for, in addition to the descent of the intestine, which, commencing at the valve of the colon, had been continued so as to form the procidentia ani, there was a smaller invagination in the opposite direction, so that the case probably resembled that which is related by Mr Spry in the 11th Number of the Medical and Physical Journal.

Every introsusception must consist of three folds of intestine: 1st, The inner, which descends. 2d, The middle, which is reflected back upon this; and, 3dly, The external or containing fold, which is reflected over the middle one, and pursues its natural course.

There must also be two angles of reflection; one by which the inner fold is continued into the middle one, and another, by which the middle joins the external fold *. In the present case there was a small introsusception, in the direction from below upwards, in the external fold. The accompanying drawing will shew

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* The representation given by Mr Hunter, in the Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge, Vol. I. pl. 3.; or that of Dr Baillie, in his fourth fasciculus, pl. 6, fig. 1, will give a sufficient idea of these facts.

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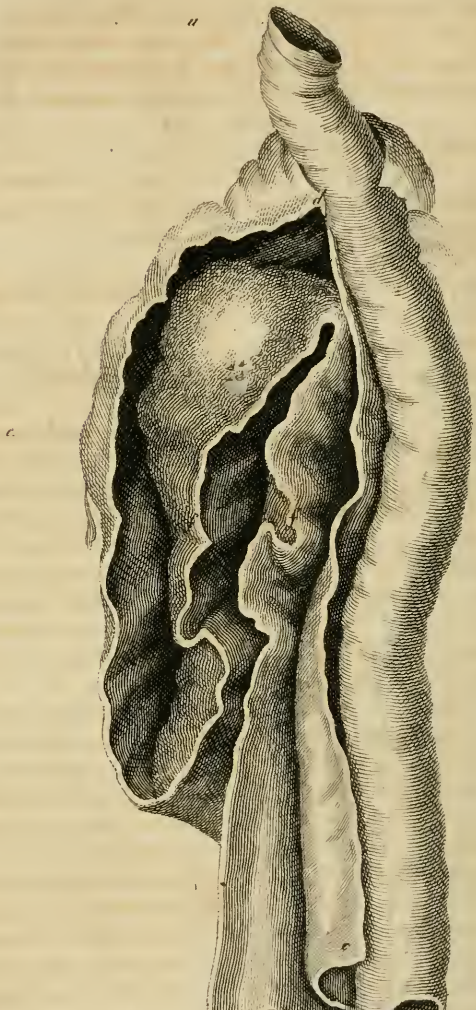
## Mr. LANGSTAFF'S CASE OF INTROSUSCEPTION.

N°. XI page 265.



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shew the course, and connexion of the different folds of the intestine, which are represented as they appeared on one side of the section only; for when the inner had been laid open, they hid the outer folds, so that the view could not include the whole of the parts.

*a*, Is the introsuscepted portion of ilium.

*b*, The angle of reflection, from the internal to the middle fold; it is marked by a dotted line, because the part was cut off in removing the specimen.

*c*, The middle fold of the introsusception.

*d*, The angle of reflection, from the middle to the external fold.

*ee*, The external fold.

*ff*, A retrograde introsusception of the external fold.

*g*, A boss of organized coagulable lymph.

Two questions of considerable importance present themselves to the mind in considering this subject, whether there are any symptoms, by which the existence of the affection can be ascertained during life? And, whether we possess any means of relieving it, supposing that its existence could be discovered? On the first of these points we may observe, that the symptoms attending on introsusception, are common to that with other complaints, as inflammation of the intestines, hernia, and obstruction of the canal, from whatever cause, and a volvulus is the least frequent cause of such symptoms.

In many * of the cases which are published, and in that which is related in the present paper, the seat of the disease was clearly denoted by a hard tumour in the left side of the abdomen. This circumstance, together with the impossibility of throwing up more than a very small quantity of fluid by the way of clyster †, which was strongly marked in the present instance, and the presence of the other symptoms, would lead us to suspect the nature of the disorder. If the invaginated portion descended so low as to protrude through the anus, and we could ascertain that it was not an inversion of the gut, the cause might be considered as clear, and we should have no hesitation in delivering a prognosis, which, by preparing the friends for the fatal termination, would exonerate us from all blame on its occurrence.

In the case of intus-susceptio related by Mr Hunter, he says,

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* In the case related by Mr Hunter, Transactions of a Society for promoting Medical and Surgical Knowledge, Vol. I. p. 109. In that by Mr Spry, Medical and Physical Journal, No. 11.

† This circumstance was observed in one of the cases recorded in the Memoirs of the French Academy, Tom. IV. p. 224.; and is also noticed by Mr Spry.

"An introsusception can never be perfectly known till after death ; but where there are violent affections of the bowels, attended with constipation, we have reason, from the cases which have been examined in the dead body, to suppose that this disease may be the cause of them ; there are, however, so many other diseases which produce the same symptoms, that nothing can be ascertained."

Perhaps it may be thought presumptuous in me to comment on any of the remarks made by that luminary Mr Hunter ; but as introsusception is more common to children than adults, and as their diseases belong more to the department of an apothecary than a surgeon, I am inclined to believe Mr Hunter had not an opportunity of seeing a sufficient number of cases, to enable him to give his opinion on this subject with that degree of accuracy he almost on every other was wont to do, or he would not have drawn the conclusion above quoted.

Several modes of treating this affection have been proposed, and some even by modern writers of skill and reputation, whence we might conclude, that the affection is not entirely out of the reach of art.

The old remedy for this, as well as for other obstructions of the bowels, viz. the exhibition of crude mercury, in large quantity, must be completely inefficacious.

The "Recherches Historiques sur la Gastrotomie dans le cas du Volvulus" of Mr Hevin, contain many interesting facts, and much sound reasoning.

He discusses very amply the question concerning the propriety of opening the abdomen, in order to disentangle the introsuscepted intestine, and determines in the negative.

If the equivocal and uncertain nature of the symptoms of volvulus, were not sufficient to deter us from undertaking an operation, which, under the most favourable circumstances, could not fail to be extremely difficult, and imminently hazardous to the patient, the state of the invaginated parts will entirely banish all thoughts of such an imprudent attempt. The different folds of the intestine become agglutinated to each other, so that they can hardly be withdrawn, even after death[*] ; the stricture on the introsuscepted part causes it to inflame [*], and even to mortify [†]. It is very clear, that, in this state of parts, the operation of gastrotomy would be totally inadmissible, even if the symptoms could clearly indicate the nature of the case, and the affected part could be easily reached and examined.

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[*] This circumstance is stated in the Edinburgh Medical Essays, Vol. VI. in a paper by Dr Simpson. In the Memoir of Mr Hevin, Obs. IV., the adhesions were so firm, that the intestine could not be withdrawn. Mr Malcom found the different folds so grown together, that he could not distinguish them. Physical and Literary Essays, Vol. II. p. 360. And Mr Hunter also found the same adhesions. *Loco citato*, p. 111. The fact is still further confirmed (I am informed

The forcible injection of clysters, with a view to their mechanical effects, has been suggested in this complaint. They were used without the least benefit by Dr Monro [‡], and do not, indeed, seem likely to afford any service, as the agglutination of the parts must produce an insuperable obstacle to their operation in pushing back the bowel.

Some have proposed the employment of a long bougie, or piece of whalebone, to push back the intestine; and this proposal may be adopted, when we are furnished with an instrument adapted to follow the windings of the large intestine to its origin in the right ilium, without any risk of perforating the gut in its course.

The most extraordinary and singular mode of the treatment is that recommended by the late Mr Hunter, by the use of emetics and purgatives. If this gentleman had attended particularly to the symptoms of introsusception, he would have found, that vomiting is an early and constant symptom of the disease, and that an insuperable constipation is an equally invariable attendant.

It must be a matter of regret, that a name so universally and justly respected as that of HUNTER, should be affixed to a proposal so manifestly absurd.

I have no hesitation in concluding, that all the modes of treatment hitherto proposed in this case are completely inefficient, and that the aid of medicine or surgery affords not the slightest prospect of benefit. Yet here, as in many other instances, the resources of nature are exhibited in a most wonderful and astonishing manner, while those of art completely fail. The invaginated portion of intestine sometimes sloughs, and is discharged *per anum*, while the agglutination of the parts preserves the continuity

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informed by Mr Lawrence, demonstrator of anatomy, St Bartholomew's Hospital, whose abilities as a surgeon and scholar are well known) by the evidence of Soemmering, in his German translation of Dr Baillie's work, p. 90, note 100.

[*] Coagulable lymph was thrown out on the surface in Mr Hunter's case.

[†] Soemmering found the parts completely agglutinated, and the invaginated portion thoroughly gangrenous. *Loco citato*, p. 91, note 193. It is by means of this process that a cure has been accomplished in the cases which will be presently mentioned.

[‡] *Loco citato*, p. 356.

tinuity of the intestinal canal. The annals of medicine furnish numerous instances *, where long pieces of gut have been discharged in this manner, and the patient has completely recovered. At the same time that we recognize the inefficacy of art, these cases will teach us to repose a just confidence in the powers of nature, and to retain some hope of a favourable event under the most unpromising circumstances.

## III.

## *The Case of a Man who died in consequence of Disease, occasioned by what may, in general, be considered a mild Punishment.* By M. A. Burmester, Army Surgeon.

Gentlemen,

As any means which can in the least tend to promote or secure the health of the soldier, are of considerable importance to the community, I am induced to lay before you, the case of a man who died, some time since, in the Mediterranean, in consequence of disease, occasioned by a very moderate degree of punishment; I am further led to offer this case to your notice, from the very general circulation of your valuable Journal amongst the Medical Officers of the Army; and in which, should you consider it worthy of insertion, I request you will afford it a place, as I trust it will tend to demonstrate, to the Military Surgeon, the great necessity of his being extremely discreet and cautious, in the discharge of a most painful and unpleasant part of his duty, namely, his attendance at punishments.

St Mary Street, Dublin,
*8th December* 1806.

The subject of the following unfortunate case was a stout healthy man, 28 years of age, subject to no constitutional disease,

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* In a case related in Duncan's Commentaries, 18 inches of small intestine were voided *per anum*, Vol. IX. p. 278. Three similar instances occur in Mr Hevin's Memoir: 23 inches of colon came away in one of these, and 28 of small intestines in another. Other cases occur in the Physical and Literary Essays, Vol. II. p. 361. In Duncan's Annals, Vol. VI. p. 298. In the Memoirs of a Society for promoting Medical and Chirurgical Knowledge, Vol. II. p. 144., where Dr Baillie states, that a yard of intestine was voided. The patients did not, however, ultimately survive in all these instances.

ease, and who, for a considerable length of time previous to his punishment, had enjoyed perfect health. He was sentenced, by a Court-Martial, to receive *eight hundred* lashes; and, on the 8th day of May received *two hundred and fifty,* in the usual manner, which he bore with a manly resolution, when the commanding officer, with his accustomed and very great humanity, pardoned the remainder of his sentence, not, however, from any appearance that he could not have borne a considerable number more, without incurring the smallest danger. For two days after the punishment, he exhibited no unusual appearances, nor did he complain of the smallest degree of pain or uneasiness, but such as is common to others in his situation; at the end of this period, lassitude, shiverings, and other symptoms of fever, came on; he said his body felt as being bruised, accompanied with a sensation of pricking, heat, and stiffness in his back; as these circumstances might naturally be expected, they did not excite surprise, nor were there any bad consequences apprehended from them; and the usual plan of treatment was pursued.

On the 4th day after his punishment, the fever was considerably increased, the sensation of pricking had become extremely severe, the punished part was unusually dry and hard, and a tense elastic swelling, of a dark copper colour, began to appear round the edges of the sore, and on that, and the following day, it spread, with surprising quickness, along the whole extent of his back; the most approved remedies, both constitutional and local, that could be obtained, were employed, but without the desired effect.

On the 9th day, evident marks of mortification began to appear on the right side, a little below the punished part, but entirely detached from it. On this, it became necessary to alter the plan of treatment; bark, and other stimulants, were used; the most nourishing diet was given; and such a proportion of Port wine, as his strength, and the symptoms of the disease, seemed to indicate. This treatment appeared, for some days, to be attended with advantage; the mortified part began to separate from the sound, and the sore assumed as healthy an appearance as could well be expected; a few days after, however, a collection of matter began to form round the edges of the sore, and by degrees, insinuated itself under the skin, over all the back; and a tumour, with evident marks of fluctuation, was felt on the left side, communicating with the sore upon the right; with such an extent of ulceration, his general health must necessarily suffer. Proper bandages were applied round the body, with a view to preserve an equal degree of pressure, and, if possible, cause the sides of the abscess to adhere; and every constitutional means were, at the same time, used to support his system, and prevent the extent of ulceration; but, notwithstanding all our efforts, the disease continued to spread with increased rapidity. The matter formed was fetid and corrosive in an extreme degree; and, on the 20th day of May, being the twentieth day from the punishment, there was scarce an inch, from his neck to his loins, free from disease; from the position in which he was obliged to lie, considerable ulceration had also taken place on his chest, wrists, and insteps, and his respiration had become extremely difficult. In this melancholy state, he continued to languish, till the 1st day of June, on the morning of which, the whole slough came away, with a profuse discharge of pus; the sore presented a tolerable healthy appearance, and he appeared somewhat relieved; he was, however, so completely exhausted, that nature being unable longer to resist the ravages of disease, he expired in the course of that evening, twenty-four days from the time of his punishment, and twenty-two from the first appearance of disease.

I conceive it necessary to add, that at the time of the above punishment taking place, several other men were also punished, some of them (from being more deeply concerned in the crime for which they suffered), to a more considerable extent, who recovered in the usual space of time, without experiencing any bad consequences whatever; I do not, therefore, imagine, that the fatal termination of this case depended, in the smallest degree, upon any peculiarity of climate.

## IV.

## *Account of the Oc-kow, a Chinese Remedy for Complaints of the Breast; with Observations on the Use of Digitalis.* By A. BAILDON, M. D. London.

I SEND with this, for your inspection, a small quantity of a substance which is much used by the Chinese in complaints of the breast. It is by them called Oc-kow; and said to be the flesh of the common ass, boiled down to a very small quantity. It is put up in boxes, containing about 2℔ weight of the substance, which is the product of the carcase of one ass. It is, in appearance, like common glue, and I doubt not but its properties are similar. That substance having lately been recommended in fevers of different types, it has struck me, that perhaps its use may be extended to hectic with advantage. The success of the Oc-kow strongly countenances this idea, if it be really successful, as it is believed to be by the Chinese, and, I am told, also by the medical practitioners at the island of Mauritius, to which large quantities of it used to be sent by Monsieur Perron, the French chief supercargo at Canton.

When surgeon of the East India Company's ship Alfred, in 1803, I was attacked on the passage home from China with phthisis pulmonalis, which came on after the rupture of a blood-vessel in my lungs. A box of the Oc-kow was given me by a medical friend, who had it from M. Perron. I took about one half of the contents, and certainly recovered completely. But I confess I do not attribute my recovery entirely to the Oc-kow, but rather to the digitalis purpurea, which I took at the same time, and of which I am disposed to think very favourably. The following observations on that medicine, may, perhaps, be of use to some of your readers. I used it in the form of pills, beginning with half a grain daily, and gradually increasing, till I took eleven grains a-day; by this my pulse, which, when I began the digitalis, was about 110, was reduced to 40, and, by taking five grains a-day, was kept at that rate for nearly three weeks; my pulse then sinking to 36, and intermitting, the pills were entirely left off. It was nearly a month before my pulse recovered its natural standard, about 72. No sickness at stomach was ever induced, and only once or twice I saw objects double. The only troublesome effect was great costiveness, and a heaviness in my head, that always inclined me to lie down. I am convinced that this medicine might be of very extensive use in all diseases where it is desirable to diminish the force of the circulation; and I think, if carefully and judiciously exhibited, this may always be effected by it.

I suspect that the difference in the accounts we have of it by different practitioners, has arisen from a circumstance very clearly marked in my case, and which strongly points out the great care and attention necessary in exhibiting this very active drug. I observed, and repeated the experiment a great many times, that after the digitalis had taken effect, *my pulse was not lessened in frequency when I stood erect;* it was then upwards of 100. When I sat down, it fell considerably; when lying on my back, it fell much more. Thus, during the time it was at 40 when lying, it was about 75 when sitting, and above 100 when standing. This was invariably the case. When I turned on either side, it fell two or three, and intermitted.

I have found the pulse to vary in this manner, in all the patients to whom I have given the digitalis to any extent. I need hardly point out the absolute necessity of carefully attending to this circumstance.

Had a physician attended me at that time, and happened to examine my pulse while I stood, he would have thought that the digitalis had had no effect, and increased the dose, which, if done suddenly, would have brought on vomiting, or other disagreeable symptoms. If gradually increased, my pulse, when I lay down, would have been decreased to perhaps 0. Had he examined me while I sat, he would have found that it had some effect, but not sufficient, and also increased the dose.

In exhibiting digitalis in such cases, I would strongly recommend that the dose never be increased more than half a grain daily, unless the symptoms are very urgent. If given in rapidly increasing doses, vomiting will be induced, and our intentions frustrated; for, after vomiting has once come on, the smallest doses renew it. If the increase is made very gradually, I think, in general, the pulse may be reduced to what we wish, without unpleasant effects;—in this way, however, the danger is greatest of carrying it too far.

When, by cautious exhibition of the medicine, we have reduced the pulse to what we wish, the dose should be immediately lessened, at least one half, as a much smaller quantity will keep the pulse at that standard, and the dose can be again increased, or farther diminished, as the pulse shall indicate.

*London, 2d March* 1807.

## V.

### *On the Tic Douloureux, or Trismus Dolorificus.*

At his clinical lecture, Dr Pearson lately exhibited two patients, who had been cured of the tic douloureux by a new mode of treatment, namely, a man aged forty years, and a woman sixty years of age.

The former, by occupation a shopkeeper, was of a rather muscular robust frame, and usually in a healthy state, except frequent attacks of the lumbago six years ago. The day after exposure to cold, in the middle of winter, without a covering to his head, he was seized with severe pain, different in mode from headach, being what he called "a pulling, tearing pain," in every part of the head, especially in the temples, and of one jaw, from which several teeth had been extracted; but the pain was slight in the forehead. The sight, smell, and taste, were not affected; nor were there any febrile symptoms or disorder of the stomach; but he had got no rest in the night for some time. His complaint, in about two months, became confined to the left side of the face; the pain extending from the lower and upper maxilla, over the cheek and other neighbouring parts. Teeth had been drawn from the left, but not from the right jaw. The pain remitted at times, during the winter and spring subsequent to the attack, and was abated often by keeping the head very warm within doors, and by covering it with flannel. The complaint was constantly aggravated by exposure of the cheek uncovered, especially to the cold air; "a breath of air," as he said, at any time, bringing on the pain. As the summer came on, the disorder remitted; and for several months, during the hot weather, there was no complaint. On the coming on of cold weather, during the subsequent winter, the affection of the face returned, and the pain was as raging as formerly, especially on admitting cold air, when the precaution was neglected of wearing a handkerchief over the mouth. Relief was obtained oftentimes by hot applications of cloths or of hot water, of hot spirits or fomentations, and sometimes by exciting a sweat, although he thought he was much weakened upon the whole, and much worse from that evacuation. Frequently none of these means were able to mitigate his sufferings; the necessity was felt, accordingly, of living within doors in a warm room. Various medicines were tried without any benefit. The second, third, and fourth summers, were passed generally with freedom from the painful affection, and the subsequent winters, as before, were passed with sufferings. Two years ago, in the winter, Dr P. was called to the patient; calomel was directed to be swallowed, and mercurial ointment to be rubbed into the skin, till a very sore mouth was produced at first, and next a copious ptyalism. These effects, for a while, seemed to have caused an aggravation of the disorder. In about six weeks or two months, however, the symptoms abated, and gradually disappeared; but during which period, the sore gums and salivation occasioned as loud complaints as the disorder itself had done. The patient continued tolerably well during the remainder of the winter last mentioned, having only very slight attacks, for a short time, the succeeding year, in damp more than in cold weather. It is worthy of remark, that the lumbago never once recurred after the attack of the affection of the face. The present is the third winter, since the patient was treated in the manner stated, and he can now bear exposure to the open air with impunity.

The other patient, Elizabeth Schanmeyer, aged 60.—She had been ill during the two preceding, and the present winter, up to January 1807. In the summer, the complaint was slight, and sometimes disappeared—was attacked about Michaelmas 1804, as was supposed, from a violent cold, caught by sitting up at nights attending a sick person. The pain was confined to the left side of the face, especially over the cheek; the part was so sensible, that touching it excited intolerable pain—the mouth could only be opened partially, and that with great aggravation of the complaint; sometimes she was unable to speak. Got no sleep for many nights together—the pain was not similar to any mode she had experienced, or to which a reference could be made. It was not constantly very violent, but remitted occasionally, otherwise, she said, she could not have lived. Nothing effectually relieved her during the winter, but was usually so by the warm weather of the succeeding summer. The following winter, 1805, the complaint became as severe as before, and abated during the next summer, 1806. As soon as the cold weather came on this year, the affection of the face occurred with renewed violence—sweating gave no relief—steaming the part did harm—cold air was especially hurtful—hence the face was constantly covered with flannel—attempting to open the mouth to take food or drink, produced excruciating pain. Sometimes the fits of pain lasted half a day, at other times only half an hour; there was no febrile disorder; the flesh was wasted; and there was great weakness. Half a drachm of strong mercurial ointment, was directed to be rubbed into the cheek affected, if the friction could be borne in that part, otherwise, it was ordered to be rubbed into the skin of the inside of the arms and thighs. Two grains of crude opium were taken at bedtime, with 30 drops of diluted vitriolic acid in an ounce of pimento water. In a few days, little relief being obtained, one grain of opium was given every six hours. In three weeks, a copious salivation was excited, with a very sore mouth; and now she could open the mouth and speak without pain, and the paroxysms of pain seldomer recurred. The ptyalism was kept up for several weeks, during which there was no further suffering of the face; after this, the mercurial friction being left off, the ptyalism gradually abated, and nothing was administered but opium at bedtime, to procure sleep, which was interrupted by the sore mouth. In about six weeks, the effects of the mercury in the mouth disappeared, and the patient continued well. —She attended Dr Pearson's Lecture Room in July 1807; and on being asked what had cured her, she said, *there was no lasting relief till the sore mouth and spitting came on.*

The successful termination of the above case, induced a third patient to apply, who is at present under treatment similar to that of the two former patients. This is a young woman, aged 24, lately from the country; the complaint is only of some months standing, in the left side of the face. Mercurial friction has been employed for three weeks, but it has not yet excited a ptyalism, and scarcely a soreness of the gums; however, a week ago the complaint had disappeared, but has again occurred.

A reference was made to a mortal instance of this painful disorder. A lady, 55 years of age, the wife of a surgeon in London, began to be affected, 14 years ago, in the left side of the face, sometimes in one part of the cheek, sometimes in another, and sometimes in the lower jaw, but the painful paroxysms only occurred frequently and with violence the last eight or nine years. The attack often began with a tingling or pricking sensation, especially after being two or three hours in bed, then passing the night wretchedly. From repeated paroxysms she became emaciated—unable to open the mouth without agony—weakened, so as to lie constantly in bed. Nothing internally taken had given relief, but opium, in the dose, occasionally, of 600 drops of the tincture in seven hours—arsenic did harm—hemlock, hyoscyamus, Peruvian bark, &c. were of no service. No surgeon thought proper to attempt the cure by dividing nerves. She by accident found relief, by applying externally very hot water, saturated with sea salt, and also from wetting the cheek with cold spirit of wine. To obtain temporary relief, at last, it was usual to take six grains of crude opium at bedtime: The state of the patient being quite desperate, half a drachm of strong mercurial ointment was rubbed in, twice a day, for nineteen days, without any effect on the mouth—then one drachm twice a day for a week—then three drachms a day for eight days, without effect—then four drachms were used daily, by which the gums became sore, and salivation was very slightly excited, with relief, but the general weakness increased. However, the mercurial friction was continued, to keep up the secretion of saliva and inflammation of the gums, till two pounds of the *unguent. hydrag.* had been consumed; and the pain in the face entirely ceased for two or three weeks. The patient's strength, however, failed more and more; diarrhœa came on; and, at length, apparently gangrene of the inside of the cheek affected, which soon terminated in the death of the patient. It seemed probable, that the life of this lady might have been saved by the timely use of the mercurial ointment.

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Mr P. a gentleman of eminence in the law, aged above 60, has been affected about four years with the trismus dolorificus of the right side of the face, and although the pain was only occasionally very acute, could not say that he had been entirely free from it for the space of a fortnight, except for three months after the operation for dividing the nerve of the jaw, opposite the right corner or angle of the mouth; this operation was performed a second time, but without any benefit—foxglove, blisters, fomentations, arsenic, hemlock, hyoscyamus, had been equally unavailing. The pain usually came on in the morning, so that he passed the nights in sleep. It was felt most in three parts, viz. near the mouth, near the ear, and in the cheek-bone. Was so accustomed to the pain, that it was become bearable; never had the affection in the left side of the face; could not describe the mode of pain; was not willing, at present, to undergo the mercurial treatment.

*London, March* 1807.

## VI.

## *Report on the Malignant Disease which prevailed in the City of New-York in the Autumn of* 1805, *addressed to the Governor of the State of New-York.* By EDWARD MILLER, M. D. Resident Physician for the City of New-York*.

### A Letter from the Resident Physician to his Excellency Governor LEWIS.

*New-York*, 12*th Jan.* 1806.

SIR,

THE Malignant Disease which prevailed in this city, for a considerable part of last autumn, having ceased about the beginning of November, it becomes my duty to lay before your

Excellency

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* Distant readers will be better enabled to understand this report, by adverting to the following particulars: The city of New York lies in N. lat. 40 42 8; W. long. 74 9 45; at the confluence of the river Hudson and Long-island sound, or the East river; and on the southern and narrow extremity of Manhattan island, which is about 15 miles in length, and from one to two in breadth. The site of the city, as it originally stood, was very irregular, being broken into hills and declivities, and indented with small rivulets or creeks, skirted with marsh. Many of the hills are levelled; but the marshy grounds, though covered with houses and pavement, are still low and moist. The city is about 27 miles from the ocean, and is washed on both sides with water of

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Excellency such an account of it as my official situation has enabled me to collect. I undertake this task with the more readiness, and shall examine the subject with the more attention, as this disease has lately acquired great additional importance from the frequency of its recurrence, the extent of its ravages, and the new and alarming points of view in which it is now considered by the nations of Europe. The embarrassments of our commerce on this account, in foreign ports, have been increasing for several years; they are already become oppressively great; they are likely hereafter to become still greater; and nothing but a thorough investigation of the subject, and the adoption of a wise and mature system of measures, will be sufficient to ascertain, and set in operation, any adequate means of relief.

In former seasons, it has been usual to observe sporadic cases of this disease for several weeks before the commencement of the epidemic. This was remarkably verified in the late season; and such cases deserve the more attention, as they furnish the best means of calculating the probability of approaching pestilence. Accordingly, one case of a decidedly malignant character was observed in the month of June; several took place in July; a still greater number in August; and, at the beginning of September, they had become so numerous as to ascertain the existence of the epidemic. Throughout September and October, the disease continued to prevail with more or less severity, according to the fluctuating states of the weather; but towards the close of the latter month, the coldness of the season had evidently checked its progress; and, at the beginning of November, the city was nearly restored to usual health.

During the early period of the epidemic, nearly all the cases took place on the eastern side of the city, in Front, Water, and Pearl Streets, and principally below Burling-slip. They afterwards became more generally diffused. About the 20th of September, they began to prevail near the North river.* On the whole,

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great depth, whose current is very rapid, whose tide ebbs and flows about six feet, and which is nearly as salt as that of the neighbouring sea. On both sides of the city considerable encroachments have been made on the water by artificial ground, the whole extent of which may be computed at not less than 132 acres. Of this, 90 acres lie along the East river, and 42 along the Hudson. The portion of it on the East river forms that part of the city where malignant fevers have always first become epidemic and chiefly prevailed. The wharves and docks are constructed of logs and loose stones. All the fresh water used by the inhabitants is procured from wells within the city, and is now become extremely impure. The population of New-York may be estimated at about 76,000.

* A similar extension of the disease, in the epidemic of 1803, was ascribed by

whole, the low grounds on the margin of the two rivers certainly produced a chief part of the cases. The number of deaths of the disease in the city, amounted to about 200; those at Bellevue Hospital to 52; and those at the Marine Hospital, sent from the city, to 28. The number of cases of malignant fever reported to the Board of Health, amounted to about 600. It is proper, likewise, in estimating the extent of the epidemic, to notice an unascertained number, probably about 40, who, after their flight from the city, died in various parts of the country.

The source of this disease forms a most interesting subject of inquiry, on the success of which must depend all rational and adequate means of preventing and eradicating the evil. After a long and careful investigation of the subject, I cannot hesitate to conclude, that *a pernicious exhalation or vapour, floating in the atmosphere*, is the primary and essential cause of this disease. In order to produce this vapour, it is necessary that there should be a concurrence of heat, moisture, and a quantity of decaying animal and vegetable matter. It is therefore exhaled by heat from low and moist grounds, overspread with the corrupting offals of animal and vegetable substances, from such substances collected in large masses, or from any place where the process of putrefaction is going on to considerable extent. This exhalation, likewise, abounds more in some situations than in others. It is more frequently and copiously produced, and more highly concentrated, in warm and tropical countries than in high latitudes and frozen regions. It prevails and exerts its pernicious influence peculiarly in certain climates, seasons, and local situations. It is generated more in summer, and operates more powerfully in autumn, than in the other seasons of the year; and it is uniformly more frequent and virulent in sea-port towns, in situations along sea-coasts, in plains, and near rivers, lakes, marshes, and swamps, or wherever stagnant waters are found, than in the interior, high, and mountainous districts of the country. It is undoubtedly one of the most universal causes of disease in nature. However diversified in quantity or virulence by local circumstances, or by varieties of climate, season, or the condition of society, its effects, in one degree or another, are nearly co-extensive with the habitable parts of the globe.

While the noxious exhalation just described, when existing in a

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by many to the removal of shipping from the East to the North river. As no such removal to that part of the city took place in the late season, it is necessary to explain the fact in some other way. This becomes very easy, when it is recollected that the *made ground* on the North river is much less extensive, and the materials composing it much less foul and corrupt, than that on the East river. The miasmata come to maturity on the one side two or three weeks sooner than on the other.

a high degree of virulence, is considered as forming the primary and essential cause of our disease; it is proper, in order to be well understood, to notice the operation of certain *secondary* or *exciting causes*. These are, exposure to heat, fatigue, cold, intemperance, fear, anxiety, &c. some of which are, in general, immediately instrumental in bringing on the disease in persons predisposed to it by the agency of the atmospheric poison. The noxiousness of this poison, by avoiding exciting causes, may often be long borne without falling into illness; and hence the operation of exciting causes, in suddenly producing the disease, is often so striking as to lead many entirely to overlook the effect of the principal agent.

The sources of pernicious exhalation in this city are unhappily very numerous, and difficult to correct. Some of them are evils of such magnitude and extent, that it requires resolution to consider them, and not to relinquish, in despair, the work of reformation. The mode of constructing our wharves and slips, would almost induce the belief that they had been designed for repositories of filth, and nurseries of disease. The *made ground* on the East river is pregnant with almost annual pestilence; it is now become enormously extensive; it was originally composed of the most corrupt materials; from its relation to the river, and the condition of the wharves and slips, it must constantly remain moist; from its surface being nearly level, it receives and retains the collected filth washed down from the higher grounds; and besides all this, the offensive and putrid matter, which a crowded population must necessarily deposit, and which already underlays a great proportion of this part of the city, incessantly augments the mass of corruption. Can it possibly excite surprise, that the scorching heat of summer, operating on the complicated pollution of this ground, formed of an aggregate of nuisances, and still the receptacle of numberless others, should exhale poison and death into the atmosphere which stagnates over its surface?

As the materials of putrefaction, and the degrees of heat, in a large city, greatly exceed what is found in the adjacent country; so the diseases arising under such circumstances must be proportionably more malignant. The pestilential fevers of our city differ only in grade from the bilious and remittent fevers of the country. They prevail in the same climates; they come on at the same season of the year; they are chiefly disposed to attack persons of the same constitution; they commit their ravages on the same organs of the body, and produce symptoms differing only in degree; and they decline and disappear at the same season, and under the same circumstances. In the city,

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we often see in the same family, and under equal circumstances of exposure, the malignant forms of pestilence, and the mild forms of remittent fever; and in the country, while the great mass of cases are usually mild, we occasionally meet with some which exhibit the violent attack, the intense malignity, and the rapid dissolution, which more frequently mark the pestilential fevers of the city.

Besides the points of analogy just mentioned, there is another, equally, or perhaps more, remarkable. The remittent fever of the country, and the malignant fevers (denominated *yellow)* of our cities, have a similar irregularity, which generally characterizes them, and leads strongly to the inference of the similarity of their origin. In the districts of the country where remittent fevers prevail, and in the cities which produce malignant fevers, we find these diseases, in seasons apparently similar, and even in the same season, often exhibiting a singular local unsteadiness in their appearance, extent, and violence. In the operation of the causes which produce them, there is something remarkably contingent and desultory. Remittent fevers will prevail, sometimes in one district of a low country and sometimes in another; while the whole extent of these different districts seems to be equally liable to the disease, and no adequate cause can be assigned for the visitation of the one, and the escape of the other. In like manner, some of our cities are invaded by pestilence in unfavourable seasons; while others, apparently just as liable to be invaded, escape.

For these reasons, as well as many others, which my limits will not allow me to state, I conclude, that our late epidemic, and all the preceding similar ones, have been of domestic origin, and, of course, nearly related to the remittent bilious fevers of the country.

From this simple and consistent view of the subject, the attention of some has been unfortunately drawn aside, by the mistaken opinions of the *importation of the disease from abroad*, and *the propagation of it by contagion*.

I. As the question of contagion, in this disease, is important and fundamental, and as the affirmative has been asserted with much confidence, it becomes necessary to consider this point with great attention.

But, before proceeding to offer reasons in detail against the contagiousness of yellow fever, it is proper to premise some general observations on the subject.

A contagious disease is distinguished from all others, by the property of generating or secreting a matter, which, applied by contact, or inhaled with the air by near approach to the sick, or to inanimate substances charged with their effluvia, successively reproduces the same disease. As this contagious matter is secreted by a morbid action of vessels, or a peculiar process of the disease, forming a specific and essential part of its character, it must always be generated when such disease exists; and being generated, and then duly applied or inhaled, its action is altogether independent of external circumstances, such as the state of the air, &c. and must always take effect, unless there be something in the condition of persons exposed to it, which renders them unsusceptible of the impression. This unsusceptibility, depending upon peculiar and unusual circumstances, (except in the diseases which attack the same person but once), must, of course, be extremely rare. The small-pox affords an example of this operation of contagion. If forty persons, who have never undergone small-pox, be closely exposed to the effluvia of a number of patients lying ill of that disease, in the ward of a small-pox hospital, thirty-nine certainly, and probably the whole number, will be infected. This is an example of a contagious distemper. The contagious matter is the constant and universal product of the disease; and when produced, it generally reproduces itself in such as receive it, provided they have not been (in the case of small-pox) previously subjected to its action. The principle of unsusceptibility cannot reside in the surrounding air, but is to be sought for in the body that resists the contagion. There are no facts to prove that pure atmospheric air is a neutralizer or destroyer of contagion; every day presents instances of the reverse; and when diffused through an extensive space, air renders it harmless, not by immediately decomposing, but by diluting and dissipating it. On the other hand, none of the truly contagious diseases derive any additional force from impure air; for the greater contagiousness of confined air, in cases of this sort, arises merely from the concentration of a greater quantity of contagious matter within a small space. The application of these principles to the subject in question will presently be seen.

It is proper likewise to premise, that the attack of many persons in the same neighbourhood, or even of whole families, by a reigning disease, affords no proof of contagion *; for the intermittent

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* In the course of the autumn, about five years ago, ninety-eight out of a hundred of the labourers employed at the Onondaga Salt-Works, in this state, were attacked with bilious fever. The two who escaped, probably owed their exemption to extensive ulcers, with which they happened at that time to be affected. That situation is unusually sickly in the summer and autumn; and a large proportion of the cases of fever which occur there, become malignant and fatal. By the death of several perſons, within a few years, who held the office

mittent and bilious fevers of the country, which undoubtedly are not propagated by contagion, often attack families and neighbourhoods so generally, as scarcely to leave healthy persons in sufficient number to attend the sick. The want of due discrimination between the effects of an *impure atmosphere* and of *contagion*, is one of the most lamentable deficiencies in the history of diseases *.

The agency of contagion, in the propagation of our malignant disease, is rejected for the following reasons:

1. No relation is observed between the source of the pretended contagion, and the spreading of the disease to individuals or families; nor was there ever any foundation to attempt progressively to trace the propagation of it to any number of persons, from the first case, or from any single point of infection. If the first ten or twenty cases, which occur in any season, be strictly scrutinized, most of them are found, in their origin, to be distinct and independent of one another. Instead of pervading families, or creeping slowly from one neighbourhood to another, in the track of infection, as is invariably the case with contagious distempers, this disease is found scattered at distant and unconnected points; and cases start up singly, in situations where contagion could neither be traced nor suspected †. The proportion

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office of Superintendant of the Works, and who fell victims to this malignant fever in close succession, that station is now justly regarded by the people of the neighbouring districts as extremely hazardous.

* Some epidemic diseases, such as small-pox, &c. are considered, by universal consent, as *contagious*; others, such as bilious remittent fevers, &c. are considered as *non-contagious*. It becomes, therefore, extremely interesting, to ascertain the criteria by which this discrimination among epidemic distempers may be clearly and promptly made. The want of precision on this point has produced much collision of opinion, and much absurdity of conduct, among physicians and others. The most obvious criterion, and that which is most generally recognized by the common sense of mankind, is the effect of personal intercourse between the sick and the well. Where a disease is truly contagious, this intercourse cannot fail to disclose the danger, which was long ago correctly stated in poetical language:

> " Quo propior quisque est, servitque fidelius ægro,
> " In partem lethi citius venit."
>
> Ovid Metamorph. lib. 7.

† Not only the dispersion of the cases is adverse to the doctrine of contagion; but the appearance of them in groups, in some instances, is altogether as much so. Many of the most judicious of our citizens were convinced of the origination of the disease from domestic filth, in the year 1798, by the following occurrence: Between twenty and thirty persons, at the commencement of that destructive epidemic, in a small neighbourhood at the lower end of John Street, were suddenly seized with the disease in one night, in consequence of a blast of putrid exhalations from the sewer of Burling-slip. The persons attacked were only such as lived directly to the leeward of this blast from the sewer; while others, close in the vicinity, but not exposed to this current, entirely escaped.

tion of single cases in the midst of families is always great; and the instances of any large proportion of families being attacked were comparatively very rare in our late epidemic. It appears from the records of this epidemic, that there were thirty-one streets of the city, most of which continued to be crowded with inhabitants, in which only a single case in each occurred; and in the mass of six hundred cases, reported to the Board of Health, there were only thirty-five houses in which more than a single case was found. If the number of deaths should be supposed to afford better ground of calculation, it will be found that there were forty streets, and those generally crowded throughout the season, in which only one death in each took place; not more than three died in one house, of which there were only two instances; and, during the whole epidemic, there were only twelve instances of two persons dying in one house *. The great mass of persons attacked with the disease consisted of such as never had approached the sick, or any other assignable source of contagion; and, on the contrary, as will presently appear, great numbers were exposed to close intercourse with the sick, without injury.

In order to explain this scattered, remote, and unconnected occurrence of cases, the advocates of contagion are obliged to resort to the extravagant supposition of the contagion being diffused through an extensive range of atmosphere, or, to use their own singular phrase, of an *inoculation of the atmosphere* by the effluvia of the sick, or of the infected clothing or bedding which were supposed originally to have introduced the contagion. It is scarcely necessary to observe, that this is a new and unheard of doctrine, utterly unknown, and repugnant to all the principles and laws of the communication of contagion, which have been sanctioned by the experience of ages, and entirely subversive of all the hopes the contagionists themselves can repose on a separation of the sick from the well, or on the most rigid regulations of quarantine. This doctrine is likewise inconsistent with itself. If contagion from a single source can extend itself so far, what would become of the inhabitants of the city generally, when, in the progress of the epidemic, cases are so immensely multiplied, and the disease so extremely diffused? If this contagion can exercise such a destructive activity at a distance, after being so much diluted in the air, what must be the effect of approaching near to the source? If a contagion really existed, capable of retaining its virulence, after such extensive diffusion in the atmosphere, it would bid defiance to all the barriers of quarantine, be incoercible by human means, and, finally, would depopulate the world. Another inconsistency is equally glaring. If this effluvium from a sick body, or from foul clothing and bedding, can be supposed to vitiate the air to such a distance around, it must, after such extensive diffusion, become light and fugitive, and liable to be blown away by the first breeze But, how does it happen that this same space of air, after the inhabitants are fled, the sick removed, and houses shut up, continues, till a change of season, to be permanently noxious? Nothing can account for this local, stationary, and inexhaustible poison, but the exhalations from the masses of filth and pollution overspreading a large area of ground, forming a vast hotbed of putrefaction, incessantly teeming with miasmata, and thereby, in despite of currents of air, loading with the seeds of disease every successive portion of atmosphere that sweeps or stagnates over the pestilential surface.

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* From these reports to the Board of Health, it results, that upwards of five hundred, out of six hundred cases of malignant fever which occurred, were single in the respective families; and that more than three fourths of the deaths which took place in the city, were likewise single in the respective families in which they occurred.

2. The pretended contagion is admitted to produce no effect in our climate, except in particular situations, and at a particular season of the year, when an impure and noxious atmosphere, which ought to be considered as a sufficient cause, is acknowledged to exist. But to consider a disease as contagious, which at the same time exhibits no appearance of that quality but in certain climates, in such climates only in certain places, at such places only at certain seasons, and even at such seasons only after a particular degree of heat and moisture, is undoubtedly to lose sight of all the established properties and laws of contagion.

3. It is admitted that the disease does not spread when the sick are removed from the impure air in which it was contracted. By breathing this impure air, without exposure to the effluvia of the sick, persons are every day attacked; while, on the contrary, without breathing it, however exposed to such effluvia, no person is attacked. The conclusion, therefore, is irresistible, that the impure air is the cause.

4. No communication of the disease was ever observed in yellow fever hospitals, situated at a small distance from the cities to which they belong. No exception to this has ever occurred, in any of the numerous seasons of this pestilence, at our hospital at Bellevue, the Marine Hospital at Staten island *, that of Philadelphia,

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* The two pretended cases of contagion at the Marine Hospital on Staten island,

ladelphia, or any other in the United States; provided the malignant air of the city had been avoided. The force of this fact seems never to have been duly considered or appreciated. The numerous retinue of medical attendants, nurses, washerwomen, servants, &c. which belong to an hospital, must be known to every body. How greatly they are all exposed to contagion, if it could be supposed to exist in this case, is equally known. The most malignant degrees of the disease are constantly found in these institutions. The exposure of physicians and their assistants is well understood. The duty of the nurses leads to an incessant and unreserved intercourse with the sick. They pass the greater part of their time, and sleep in the apartments of the sick, the dying, and the dead *. In lifting, undressing, dressing, administering remedies, and many other modes of assistance, they are very often in actual contact, and commonly within a small distance of the patients. They receive and carry away all excrementitious discharges. Several persons are employed in washing the foul clothes and bedding of the sick and the dead. Not only all these have invariably escaped the disease, but likewise all the persons occupied in the removal of the sick from the city to the hospital, who, in this service, went without reserve into the most pestilential quarters of the town, entered the most filthy apartments, and lifted the sick into their carriages, dressed in their foulest clothes, and sinking under the worst degrees of the disease †.

In order to account for these facts, the advocates of contagion contend, that its activity is confined to *impure air*, and that by this alone it can be *conducted* to the objects of its attack. Our hospital at Bellevue, however, is not so constructed as to allow the supposition of great purity of the air; and, indeed, the state of the land air, in the months of August, September, and October, cannot be considered as pure in any part of our country. But

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island, one in the year 1799 and the other in 1800, were evidently fevers produced by the poison of typhus, modified by the season. Nature is too simple and uniform in her operations, to constitute a disease contagious, and yet only so once in a thousand instances.

* The nurses at Bellevue Hospital became so entirely free from all apprehensions of the contagiousness of this disease, that they often slept on the same bed with the sick; and it happened more than once, in the course of the season, that a nurse, overcome with fatigue and want of sleep, threw herself, in the night, for a little repose, on the bed of a dying patient, and remained there asleep till the patient was dead, and it became necessary to remove the corpse.

† In order to account for the escape of these persons, which is indeed wonderful, it is proper to state, that they all resided during the season at the Alms-House, an elevated and healthy part of the city, and consequently were only for a short period, at any one time, immersed in the noxious atmosphere.

But admitting the highest possible purity of air in these hospitals, the operation of contagion, if it existed there, could not by such means be avoided. When the naked hands of physicians and nurses are in contact with the skin of the patient, scorched with febrile heat, or bedewed with the matter of perspiration, how can pure air be interposed to arrest the passage of contagion? When they inhale, as they often do, the breath and effluvia of the sick, no man can doubt that such air is sufficiently impure to be the *conductor* of contagion, if it really existed. In all contagious diseases, contact and immediate inhalation of the effluvia and breath of the sick, are supposed to constitute the greatest possible exposure; and, in such cases, it is plain, the interposition of air, pure or impure, must be equally unavailing to arrest the evil. Yet, in these hospitals, persons not only escape this danger, but none was ever known to be infected by it *.

5. The extinction of the disease by cold weather, is an insuperable objection to the doctrine of its propagation by contagion. That the disease in reality depends upon an atmospheric poison, appears from the fact, that all the means which operate to arrest and destroy it, such as cold, heavy rains, and high winds, are merely atmospheric agents. The healthy temperature of the human body is the same in all climates and seasons; and febrile heat is not less in winter than summer. Consequently, the morbid process by which the matter of contagion is generated, is under no controul from atmospheric temperature. Hot climates and seasons are universally held to be unfavourable to the spreading of contagion. The reason is obvious. In warm weather the doors and windows of the apartments of the sick are kept open, and ventilation is carried to the highest degree. At this season the effluvia of the body, whether in health or disease, are sooner dissipated, and, of course, can less readily adhere to clothing, bedding, walls, furniture, &c. so as to be retained, and become noxious. In conformity to this, typhus, which is propagated by a poison produced in the clothing, bedding, furniture, &c. of persons living in filthy and crowded apartments, generally prevails and spreads much more in winter, when such apartments are deprived of ventilation. On the contrary, yellow fever, arising from a deleterious principle floating in the atmosphere,

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* In the epidemic of the year 1798, seven persons died of yellow fever in our Alms-House. It was ascertained, that they had taken the disease in consequence of going out and breathing the atmospheric poison diffused through the more contaminated districts of the city. Although the house then contained about 800 persons, no communication of contagion took place.

mosphere, and produced by the operation of solar heat upon vegetable and animal filth, ceases to prevail soon after this heat is reduced so low that it can no longer exhale a sufficient quantity of the miasmata of putrefaction. But if this disease depended upon contagion, instead of disappearing at the accession of cold weather, when houses are more closely shut up, it would be then more certainly communicated, and more widely destructive.

6. Yellow fever does not prevail in countries where the heat is not sufficient to exhale the miasmata of putrefaction, in the requisite quantity and virulence. We hear nothing of this disease in Great Britain, Ireland, or France; though it is well known, that persons ill of it, and shipping in which it has recently prevailed, very frequently arrive in their ports. The boarding houses in the sea-port towns of these countries, in which seamen arriving from the West Indies are generally lodged, are known to be often extremely filthy, and filled with impure air, as appears from the prevalence and ravages of typhus; yet this impure air, in those countries, cannot *conduct* the contagion of yellow fever.

7. Many persons who had contracted the disease in New York, died of it at Boston, Albany, and other cities at a distance; many likewise at Greenwich, Brooklyn, and other villages in the neighbourhood. In no instance did these victims of the epidemic communicate contagion. In all these places, the air at that season must have been very *impure;* at Albany and Brooklyn, violent remittent fevers were at the same time extremely prevalent; and yet this impurity of the air did not serve as a *conductor* of contagion.

8. Among the early cases of this disease, in the late season, which were, as usual, most virulent, very striking examples of its non-contagiousness were displayed in some of the most crowded quarters of the city. In the beginning of September, a considerable number of sick, who had taken the disease on the eastern side of the city, were removed to the western side, where they died with the most pestilential symptoms. In a house in Cedar-street, where two patients expired under the worst symptoms of this description, the * beds of the deceased, in a very few hours after their death, were occupied by the survivors of the family

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* It is proper to observe, that since the first publication of this letter, a contradiction of the statement concerning the beds has been received from one person, and a confirmation of it from another. That particular circumstance is, however, immaterial; as it is admitted, on all hands, that no contagion arose from either of these malignant cases.

Yet in none of these numerous instances was any contagion communicated.

9. The universal exemption of the physicians of New York, amounting at least to 50 or 60 persons, from the late disease, is also irreconcilable with the doctrine of its contagiousness. I have not heard of any physician in Philadelphia, New-Haven, Providence, or Norfolk, suffering illness from their late epidemics. It is known that physicians neither use nor possess antidotes. Their exposure to the breath, effluvia, and contact of the sick, was almost incessant, from morning till night. They employed no precaution of dress or covering, no fumigation, no means of destroying, neutralizing or obviating, in any manner, the effluvia of their patients. The dissection of bodies dead of yellow fever, if contagion had existed, would also have formed another source of danger. Many of the physicians of this city were frequently engaged in this mode of investigating the disease, and minutely examined bodies in a very advanced state of putridity. The more happy escape of physicians in the late than in former epidemics, is to be attributed (under the protection of Divine Providence), to their having secured a residence in the higher and safer parts of the town, and to the comparative infrequency of their visits to the districts of envenomed atmosphere, owing to the early desertion of these districts by the chief part of the inhabitants. It is understood, at the same time, that our physicians, in their confidence of the non-contagiousness of the disease, generally passed more time in the apartments of the sick, and were in the habit of making a more deliberate and minute examination of the cases which fell under their care, than in preceding epidemics *.

10. The failure of every attempt to arrest the progress of the disease, by the separation of the sick from the well, is also incompatible with the doctrine of contagion. Besides the numerous ineffectual attempts in this city, the utmost endeavours were used, with the same result, by the Board of Health of Philadelphia, whose members had been purposely selected for this object, from those who embraced the opinion of the importation and contagiousness of the disease. It would be fortunate, indeed, for the purpose of arresting yellow fever, if its progress depended upon

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* The exemption of the nurses from disease, who attended the sick in the city, was also very remarkable. Upwards of sixty persons were employed by the Board of Health, to perform this duty. Only four of these died; two others only were sick, and recovered. And it appears, upon inquiry, that such as died or were sick, had been stationed in the parts of the city where the atmosphere was known to be most highly charged with the miasmata of putrefaction.

upon contagion. This appears from the example of the small-pox, a disease, whose contagion is more active, steady, and permanent, than any other in the world. By a system of quarantine, extremely simple, and very little burthensome, this distemper is excluded, or, if introduced, immediately arrested and banished, in Boston and other cities of New England, where its admission and circulation are prohibited by law.

11. The inconsistency and contradiction which constantly attend the application of the doctrine of contagion in this disease, make it altogether inadmissible. To explain one set of facts, it must infinitely transcend the contagiousness of small-pox; to suit another, it must sink infinitely in the opposite direction. On some occasions, it is more subtle, penetrating, and rapid than the electric fluid; on others, more sluggish and dormant than the grossest matter. Contrary to all other noxious substances, it is often more destructive at a distance, than near to its source; for at one time, it cannot reach a single individual among a great number surrounding the bed of the patient, and in frequent contact with his person, while at another, it must strike at the distance of several hundred feet [*]. THE NOXIOUSNESS OF THE MIASMATA OF PUTREFACTION, EXHALED BY HEAT, AND FLOATING IN THE ATMOSPHERE, EXPLAINS ALL THESE FACTS, AND RECONCILES ALL THESE CONTRADICTIONS.

If it were possible to add any thing to the evidence of these irresistible facts, I might subjoin, that yellow fever cannot be considered as a contagious disease;—because, unlike all other contagious diseases, it has no specific character, no definite course or duration, and no appropriate, essential, or pathognomonic symptom;—because, the supposed contagion rarely operates singly, and in general depends upon the co-operation of exciting causes;—and finally, because the miasmata which produce this disease are more or less noxious, as they are more or less concentrated, a property which does not belong to the specific poisons of small-pox, syphilis, &c.

Under the conviction of these facts, I am compelled to conclude, that our malignant disease is the effect of a noxious exhala-

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[*] While it is admitted, that contagion cannot operate in yellow fever hospitals, and while this inactivity of it is ascribed to the absence of impure air; it is, at the same time, gravely asserted by some, that a person going on board of a vessel, lying in a situation where the air is much more pure than it can possibly be at an hospital, even though there exist no sickness on board of such vessel, may still derive contagion from it, and experience all the active and malignant operation of such contagion, notwithstanding this purity of the surrounding atmosphere.

tion floating in the atmosphere, and that it is ABSOLUTELY AND UNIVERSALLY NON-CONTAGIOUS.

For the correctness of the facts on which this conclusion is founded, I appeal to my fellow-practitioners and fellow-citizens, who have been witnesses of the disease. For the application of these facts in the deduction of principles and opinions, I appeal to the judgment of physicians in every quarter of the world, where medicine is cultivated as a regular science. And, especially, I would offer this appeal to the liberal and enlightened physicians of Europe, who are sincerely devoted to the cause of truth and professional improvement, who, on this subject, have heretofore received much incorrect information, and who, as soon as they become convinced of the real state of the question, will, I am confident, exert the influence they so justly possess, in procuring from their respective governments an abolition of the oppressive and useless restrictions of quarantine, which have been recently imposed on American commerce.

II. The second mistake concerning this malignant disease, which has been impressed on the minds of some of our citizens, is that of its *importation from abroad, and chiefly from the West Indies.* This opinion is rejected for the following reasons :

1. The non-contagiousness of the disease must entirely destroy the belief of its introduction from abroad. It is impossible to conceive that it can be conveyed across the ocean, and propagated in the cities of the United States, unless it possess the power of successively re-producing itself by communication of contagion from one person to another.

2. If the alleged importation were possible in any case, it might happen at any season of the year. In this active sea-port, shipping from the West Indies are very frequently arriving at all seasons; and it is known that yellow fever may be found in those islands at any period of the year, when they are visited by strangers from the higher latitudes; yet the pretended importation is always confined to that period of the summer and autumn, when local and domestic causes, sufficient to produce the disease, are known to exist.

3. If yellow fever could be introduced from abroad, it is impossible to explain its non-appearance in our sea-ports for a long series of years, when no means were used to secure its exclusion. For more than 50 years preceding 1795, no importation of the disease into this city was suspected ; and it is indeed uncertain, whether, before that year, the opinion of its importation at any period of the eighteenth century, had attracted much attention. The advocates of importation generally assert, that periods of war in the West Indies are most apt to occasion its introduction

into this country. Yet we hear nothing of its being brought to this port during the war of 1756, or that of the American Revolution. In the former of these wars, the mortality attending the successful expeditions against Martinique, Guadaloupe, and the Havanna, was almost incredible. Only a very small part of the victorious troops were alive three months after their conquests. Equally fatal were the malignant fevers of the West Indies, in the war of the American Revolution. Dr Hunter * informs us, that of 5,000 troops who took possession of St Lucie, scarcely a man of the original number remained at the end of one year, although the sword of the enemy had destroyed an inconsiderable amount. The mortality continued as great in the subsequent years. From the 1st of May 1780, to the 1st of May 1781, the number of dead was equal to the average strength of the garrison during the year. Of the troops sent from Jamaica upon the expedition against Fort St Juan, scarcely a man ever returned. During this period, the intercourse between the West Indies and this port must have been extremely frequent. Dr Blane † states, that in the course of the war of our Revolution, nearly 18,000 sick were landed at New-York from the British fleets; that 11 sail of the line arrived here early in September 1780, from the West Indies; that 26 sail of the line arrived here at the same season in 1782, likewise from the West Indies; and that from each of these fleets, a great number of sick, afflicted with malignant fevers, were sent to the hospitals at this place. It is also known, that a similar fleet arrived here in the beginning of the autumn of the year 1781. During all this period, notwithstanding the ravages of yellow fever in the West Indies, and the conveyance of so many sick to this port, we hear nothing of the importation of the disease. And yet, at that time, no quarantine regulations existed.

The contingencies by which yellow fever might have been imported, through the medium of commercial shipping, or of naval and military expeditions, if such importation were possible, must very often have occurred in a sea-port like this, where such extensive communication has been so long maintained with the West Indies. A more frequent introduction of the disease, therefore, according to the doctrine of importation, as now held, must have been inevitable. But as this did not take place for such a length of time, and under circumstances so likely to produce it, we are warranted in the conclusion that importation is impossible.

On the contrary, as the history of pestilential epidemics, in all ages and countries, demonstrates that they are subject to frequent revolutions,

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* Observations on the Diseases of the Army in Jamaica.

† Observations on the Diseases of Seamen.

revolutions, as to the periods and places of their prevalence, the variety of their symptoms, and the degrees of their malignity; it is much more easy to account for changes in such diseases, as they locally or periodically occur, than for any great diversity or fluctuation in the circumstances or contingencies which determine their importation from abroad.

4. No importation of this disease, so as to become epidemic, was ever known in any port of Great Britain, Ireland, or France. The vast amount of shipping, as was observed before, which arrive at those ports from the West-Indies, is well known; and, that they often arrive in a very sickly condition, is equally known. The filth and impure air of those ports are admitted on all hands; and the effects of them are experienced, in the destructive fevers, of a different description, which frequently prevail; and yet, for want of the atmospheric heat, and other local circumstances requisite in the generation of yellow fever, they are happily strangers to its epidemic prevalence.

5. The appearance of yellow fever in many of the interior parts of the country, inaccessible to foreign contagion, confirms the opinion of its domestic origin, while it entirely invalidates that of its importation. There is not a state in the Union, which has not afforded evidence of the production of the disease, in situations where importation was impracticable. In the course of the late season, a malignant fever, in all essential points the same as our yellow fever, prevailed in many parts of this state, and caused more mortality, in proportion to the population of the district, than took place in this city. There can be no reasonable doubt, that the disease called the *Lake Fever*, in the interior of this state, possesses all the essential attributes of the yellow fever.

6. A comparison of the summer and autumn of the year 1804, with the corresponding seasons in 1805, will go far to shew the dependence of our malignant epidemics on the condition of the atmosphere, and, of course, to overthrow the doctrine of importation. The summer of 1804 was mild and cool, beyond former example, on all the Atlantic coast of the United States, lying to the northward of the Carolinas. In South Carolina and Georgia, the heat was unusually great. All the Atlantic cities north of the Carolinas, without exception, entirely escaped the epidemic; whereas at Charlestown, and in some parts of Georgia, it prevailed with great mortality. On the contrary, the late summer was remarkable for the duration as well as the intensity of heat, along the whole of our coast; and the consequence was, not only that nearly all the Atlantic cities were visited with pestilence, but, what was still more surprising, that in several of them it made its appearance within forty-eight hours, or nearly,

of the same time; an occurrence which cannot be explained on the contingency of importation, and is only to be satisfactorily accounted for from the state of the atmosphere.

7. The occurrence of similar diseases in other parts of the world, under similar circumstances, where contagion introduced from abroad cannot possibly be suspected, is also adverse to the doctrine of importation. In making the circuit of the globe, on the parallels of latitude nearly or exactly corresponding with ours, we pass over countries which, from the earliest records of history, have been frequently visited with the ravages of this scourge. Spain and Italy afford striking examples. The city of Rome, in particular, though its elevated situation is generally salubrious, is annoyed by a marshy spot at the feet of two of its hills, along the margin of the Tiber, which has beeen sickly and pestilential from the origin of the city. While the streets on the hills, like Broadway and other high grounds in this city, enjoy a salubrious air, the spot of marsh just mentioned, together with a small extent of *made-ground*, (for the madness of *made-ground* has existed at Rome as well as at New York *), corresponding with our marshy districts, and vastly more extended space of made-ground, along the margin of the East river, has produced, from time immemorial, malignant and mortal epidemics. And the medical historian of these facts, (the celebrated Baglivi) expresses his astonishment that so small a distance, as that intervening between the elevated and depressed portions of ground, should make such a difference in the qualities of the air. As the Tiber is not navigable for sea-vessels, the importation of their pestilential epidemics at Rome was never suggested.

8. The inefficacy of all the various modifications of quarantine hitherto devised in this country, confirms our disbelief of importation. In this port, as well as in Philadelphia, a rigid system of quarantine has been in operation for many years; and there is no doubt of its having been vigilantly and faithfully executed. Indeed, the experience of quarantine in the United States speaks little in its favour; for though, during the last ten years, it has been scrupulously enforced in several ports, we have heard ten

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* Proofs of this might be adduced from Lancisi and other medical writers of Rome. The following lines are sufficient to establish the fact:

Hoc, ubi nunc fora sunt, udæ tenuere paludes;
  Amne redundatis fossa madebat aquis.
Curtius ille lacus, siccas qui sustinet aras,
  Nunc solida est tellus, sed lacus ante fuit.
Quà Velabra solent in Circum ducere pompas,
  Nil præter salice, cassaque canna fuit.

Ovid. Fast. Lib. VI.

times more of imported contagion, and of its ravages, at these very ports, during that short period, than for an hundred years before, when no quarantine was in existence.

9. The entire want of all proof, and even of the least probability of the introduction from abroad of the germ of our late epidemic, gives the last blow to the doctrine of importation. The facts on this subject have been so clearly and minutely detailed by the Health Officer, that it would be superfluous to repeat them here.

The source of mistake, on the subject of importation, consists in not distinguishing *a febrile poison, generated by heat and filth in a vessel*, from *contagion taken up in a foreign port, and successively communicated from one person to another*. The construction of vessels disposes them to the collection and retention of filth, and renders cleansing and ventilation extremely difficult. The quality of cargoes and provisions, the inattention of seamen to cleanliness, the crowded manner in which they often live, the unsuspected and inaccessible situations in which corrupting substances may lie concealed, render shipping, independently of the hazards of the element on which they move, the most dangerous of all human habitations. It is no wonder, therefore, that they should become unhealthy, when they pass into warm latitudes, or lie in our harbour in the hot season. In no situation is a malignant fever more apt to originate than in a ship. A vessel that never left our port, or that has remained in it for years, may become foul, and thereby generate and emit a deadly exhalation. Whether malignant fever arises from filth ashore or on shipboard, the principles and process, by which the evil is produced, are still the same. On what ground can a disease be said to be *imported*, which has no other relation to a foreign country, than that of being generated in a vessel which has lately visited that country? The foreign country, the outward and homeward voyage, are circumstances of no moment in determining the origin and character of the disease; to account for this, we must consider the filth, the moisture and heat, which, concurring to a certain degree, are destructive to man at all times, in all situations, and under every condition. And a fever originating under such circumstances, can no more be pronounced *imported*, than a fracture of a limb happening at sea can be called an *imported fracture*.

It has been supposed by some, who regard only one aspect of the subject, that the doctrine of importation alone can explain the more frequent recurrence of malignant epidemics for the last ten years. But the difficulty still returns with unabated force; and it remains to explain, why importation has become so much more frequent and easy of late than formerly. If it be thought impracticable to throw light on that particular constitution of the air, which determines the prevalence of yellow fever at one time more than another; it is equally impracticable to ascertain the qualities of the air which produce malignant distempers of the throat, the dysentery, and other mortal epidemics, (which are undoubtedly of domestic origin) for a season, or for a term of years, and then allow them to disappear.

It has been said, that the belief of the yellow fever originating in this country, would be destructive to its commerce and prosperity. But if the appeal must be made to interest rather than truth, let us contrast the effects of the two opinions, as they influence our intercourse with foreign nations. By truly describing the disease, and exhibiting the proofs of its local origin and non-contagiousness, we convince foreign nations that it is a misfortune limited to ourselves, that it cannot endanger their safety, and that it only claims their sympathy and regrets. By asserting the importation and contagiousness of it, the evil immediately swells to an indefinite and incalculable extent, and we alarm all nations with the fear of its being, in turn, exported to them. After the experience already gained, neither they nor we can cherish any rational hope of hereafter excluding it by regulations of quarantine. Our intercourse with the West Indies, and with all other tropical countries, will be daily extended, and if importation were possible, the chances of it will be every year progressively multiplied. On the ground of importation, unless trade be totally forsaken, our situation is hopeless.

In rejecting the doctrine of importation, the benefits of quarantine are by no means intended to be undervalued. The generation of pestilential disease in foul vessels is undeniable; they are certainly a very frequent source of sickness; and all persons concerned in shipping are interested in a careful examination of them. There ought to be some mode of ascertaining whether a vessel may be safely approached by people in business, or whether she may be likely to diffuse pestilential vapours among all who come within their reach. Quarantine is also one of the most humane regulations in favour of seamen, who are confessedly a very useful and necessary class of the community. It interposes between them and the carelessness or cruelty of their commander, and makes it his interest to preserve their lives and health. And while it might be organized so as to answer all these purposes efficaciously, it might also be properly stripped of its useless and burthensome appendages.

If the facts and reasonings which I have adduced, to prove the non-contagiousness and non-importation of yellow fever, be well

founded,

founded, it results, that our epidemics are local, domestic, and as incapable of exportation to foreign nations as the bilious fever of the country. It is to be lamented that the reverse of this opinion has made so deep an impression in Europe; and that the governments of that quarter of the world have suffered themselves so lightly and hastily to embrace doctrines, and legislate on principles, contradicted by all former experience. It is now more than 300 years since they became acquainted with America. And although the first discoverers of the new world, as well as most succeeding adventurers, have largely shared the effects of the baneful climate of the West Indies, it is only of late that apprehensions have been entertained of importing into Europe the malignant fevers of those islands. The shattered remains of fleets and armies had often returned home to Great Britain and France, in the most sickly state, after encountering all the horrors of yellow fever, without once communicating that disease. But what transmutation can yellow fever undergo in the United States, which renders it exportable to Europe from us, but not directly from the West Indies?

It affords some apology indeed for Europe, that the information concerning this subject, upon which they have acted, was derived from our own country. The acts of our State Legislatures, the proceedings of our Municipal Bodies and Boards of Health, the proclamations of our Magistrates, and a variety of other public documents, have all a tendency to impress the same opinion. We have held up to foreign nations an indigenous and local disease, growing up from the infelicities of particular situations, or from neglects of police, and entirely incommunicable from one person to another, as highly contagious, capable of exportation to distant countries, and consequently alarming to the safety of the whole commercial and civilized world. We cannot transplant the disease from this city to the neighbouring villages of Greenwich, Brooklyn, or Newark; and yet it is believed we we can convey it 3000 miles, across the pure air of the Atlantic. Whole hospitals of patients, labouring under the most malignant forms of the disease, with all the foul apparel, bedding, &c. polluted with the excrementitious discharges and other filth of the sick, the dying and the dead, cannot emit an atom of contagion; and yet we pretend to dread the infectiousness of a sailor's jacket or handkerchief, or even of the cordage and timbers of a vessel. Under the influence of this phantom of contagion, we have instructed the Europeans to enact laws and regulations, sanctioned by the highest penalties, which retard and oppress our commerce, and subject our shipping in their ports to the most grievous detention. To crown the whole of this injury ry and humiliation, we have instigated them to place the people of the United States, by late extensions of quarantine, on the same footing with the degraded and detestable inhabitants of Barbary, Egypt, Syria, the Archipelago, Constantinople, and other parts of the Turkish dominions. And all this has been done, in defiance of clear and luminous facts, and in the face of long, reiterated, and ample experience.

By discarding the bugbear of contagion, the origin and nature of yellow fever will be more truly ascertained; the means of personal safety more generally understood; and the measures necessary to improve the salubrity of the city more vigorously pursued. The public will no longer witness that desertion and misery of the sick, which have too often disgraced society in every epidemic. The bosom of humanity will no longer be wrung with the sufferings of our fellow-creatures, driven, while under the pressure of this calamity, from every place of shelter, deprived of comfort, and abandoned to their fate, from the false impression of danger in affording them assistance. By telling the community the truth, we shall lessen apprehension and distress, we shall disarm the evil of half its power, and restore the ties of kindred and of nature *.

It is surely time to investigate this subject with the deepest attention, and to adopt some adequate system of relief. The warning voice of history and experience loudly calls us to make every exertion to deliver our city from nuisances, which threaten to

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* The learned Dr HUNTER, one of the members of the NATIONAL BOARD OF HEALTH of Great Britain, offers the following argument in support of his opinion of the non-contagiousness of yellow fever: " The strongest proofs of this, in my opinion, were to be met with in private families, where the son, the brother, or the husband, labouring under the worst fevers, were nursed with unremitting assiduity by the mother, the sister, or the wife, who never left the sick either by day or by night, yet without being infected. That such near relations should take upon them the office of a nurse, is matter of the highest commendation in a country, the diseases of which require to be watched with greater care and attention then can be expected from a servant. They are under no fears of the fever being infectious, and I never saw any reason to believe it to be so, either in private families, or in the military hospitals." That Dr Hunter came to this decision, after a full and mature consideration of the importance of the subject, will appear from the following remarks: " There is hardly any part of the history of a disease, which is of more consequence to ascertain with accuracy, than its being of an infectious nature or not. Upon this depends the propriety of the steps that should be taken, either to prevent it, or to root it out. It is productive of great mischief, to consider a disease as infectious that really is not so; it exposes such as labour under it to evils and inconveniences, which greatly aggravate their sufferings, and often deprive them of the necessary assistance. They are neglected, if not shunned; and at the time they require the greatest care and attention, they have the least."

Observ. on the Diseases of the Army in Jamaica, page 177 & 178.

to entail the miseries of an annual succession of malignant epidemics. WE LIVE IN THE LATITUDE OF PESTILENCE, AND OUR CLIMATE NOW PERHAPS IS ONLY BEGINNING TO DISPLAY ITS TENDENCY TO PRODUCE THIS TERRIBLE SCOURGE *. The impurities, which time and a police, rather moulded in conformity to the usuages of more northern countries, than to the exigencies of our own, have been long accumulating, are now annually exposed to the heats of a burning summer, and send forth exhalations of the highest virulence. The examples of similar calamities in many parts of the old Continent, ought long since to have taught us lessons of wisdom. In the city of Rome, time and fatal experience pointed out the necessity of erecting extensive and costly public works, in order to deliver the inhabitants from the horrors of pestilence; and the air of that city was, at several periods of its history, in alternate succession, observed to become pestilential or salubrious, as these public works were suffered to fall into decay, or were repaired and renewed.

The different opinions of the origin of yellow fever, offer us only the alternative of a more rigid quarantine, or of more vigorous internal measures. Every step of increasing restriction in our system of quarantine, has only served to shew more clearly the domestic origin of the disease. If an entire prohibition of West India trade, or a prohibition during the summer and autumn, were imposed by law, the effect would soon be sufficient to banish every doubt from the mind of the public. How far the advantage of unanimous conviction might be supposed to countervail the burthen of such restrictions for a short period of years, I shall not undertake to decide.

But whatever opinion may be embraced, the present moment is certainly not the time for the indulgence of apathy or inactivity. If the legislature, in their wisdom, should still think that this disease is introduced from abroad, they are bound by the strongest obligations, to extend the powers of quarantine by additional restrictions. The conveniences of trade are not to be put in competition with the ravages of yellow fever. If it be necessary to resign the freedom of commerce, or to incur the miseries of pestilence, let the former be freely abandoned.

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* To convince the reader of this, it is only necessary to remind him how near the cities of Philadelphia and New York lie to the parallels on which Rome and Constantinople are situated. It is scarcely requisite to observe, that the ravages of pestilence in these ancient cities have far exceeded any thing which has occurred elsewhere, unless those of Grand Cairo should be supposed to equal them.

It is likewise my duty, before I conclude, to suggest whatever it may be deemed adviseable to do towards the removal of existing nuisances, and the improvement of the salubrity of the city. This task has been in some degree anticipated, in my letter to Governor Clinton, after the epidemic in 1803. Unfortunately, some of the requisite measures will demand great expence, and must bring to a test, the liberality, enterprize, and public spirit, of the city and state. Among the improvements of the most urgent and immediate necessity, I consider the following, to wit: *Water*, obtained from a distant source, of pure quality, and in quantity sufficient to allow a constant, plentiful, and increasing expenditure: *Sewers*, of such number, capacity, and construction, as completely to drain all the low and marshy districts, to carry away all filth, and to be constantly washed by a brisk current of water; a new arrangement and construction of wharves, docks, &c. so as to face the margin of the two rivers with a stone quay, impervious to water; a prohibition to make a single additional foot of artificial ground on either of the rivers; a different modification of privies, which are every day becoming more and more an alarming nuisance, and will soon underlay, with filth, a large portion of the city; a better plan of paving, more particularly as respects the construction of gutters, &c.; the draining of all stagnant waters in the town and neighbourhood; the filling up, levelling, and paving all low and depressed lots and places of whatever description; and a prohibition hereafter to inter dead bodies in any part of the city. Many other objects, which would require much minuteness of detail, likewise demand attention; and will acquire great additional importance from the rapid progress of building and population.—I have the honour to be, with great respect, your Excellency's most obedient and humble servant,

EDWARD MILLER, Resident Physician.

## APPENDIX.

UNDER this title, it is intended to lay before the reader some proofs and illustrations of the principles delivered in the foregoing report, which could not properly be admitted into the letter itself, and which are too long to have been conveniently subjoined in the form of notes.

### *On the Analogy, as to localities and diseases, between the cities of Rome and New York.*

It is from the south of Europe, and chiefly from Spain and Italy, that inquirers into the endemic diseases of the United States may expect to derive the most valuable lessons of time and experience. The writings of the Italian physicians, in particular, are full of instruction on this subject;

ject; and it is to be lamented, that this instruction has not been more eagerly sought for, and more generally obtained by their American brethren.

By considering the following account of the localities and diseases of Rome, given by Baglivi, and comparing them with those of New-York, we perceive how exactly like causes will produce like effects, in the old and in the new continent.

" Ut res exemplo fiat clarior, exponemus breviter, quæ nos Romæ circa aëris temperiem, & medendi methodum quotidiano usu experimur. Aër Romanus septem collibus, Orbis dominis, hodie interclusus, naturâ humidus est & gravis; experimento namque constat, quod si quis paulo longius a frequentia tectorum processerit, quantam cœli gravitatem atque intemperiem manifesto concipiet. Insaluberrimis Austri, Africi atque Euronoti flatibus obnoxius: ab æstivis caloribus interdum tantopere exardescit, ut mirum non videatur, si Consulibus L. Valerio Potito, & M. Manlio, Pestilentia orta sit in agro Romano, *ob siccitates & nimios solis calores*, teste Livio, lib. V. His aliisque de causis infra dicendis, Incolæ urbis temperamento præditi sunt melancholico, subfusco, & nonulli subpallido cutis colore, habitu corporis macilento potius quam pingui; levi de causa capite afficiuntur, & iis morbis potissimum subjacent, quos aeris gravitas solet producere, sicuti sunt pulmonis vitia, febres malignæ, cachexiæ, pallores vultus, incubus, tabes & consimiles. Porro aer Romanus squalidus quoque est & insalubris, non quidem omnibus in locis, sed iis potissimum, quæ deficientibus ædificiis, pigro atque immoto aere sordescunt; multo magis si Tiberi adhærent, vel convallium instar, montibus obsepiuntur, aut exhalationibus subjacent quas veteres parietinæ, cryptæ, & antiquorum ædificiorum rudera emittunt. Ex quo patet Regionem Circi Maximi, inter Palatinum atque Aventinum, sitam omnemque illum campum qui inter Aventinum, ac Tiberim, portamque Ostiensem, jacet, plane noxium esse & damnabilem. Sed ut rem universim definiam. Quæcunque loca crebris ædificiis ambiuntur, atque editiora sunt, in septentrionem atque orientem spectant, & multum a Tiberi distant, salubriora: Contra quæ sejuncta sunt, & remota a frequentibus tectis, situque sunt humili, ac maxime in convallibus, tum propiora Tiberi, in meridiem atque occasum spectantia, minus salubriora judicantur: Quibus etiam in locis (quod sane mirum) brevissimi intervalli discrimine, hic aliquantum salubris existimatur aer; illic contra noxios & damnabilis.

" Insalubritatem hanc urbani aeris, fovet magna ex parte adjacens Latium; quod undequaque corona montium circumcingitur, excepto tractu illo, qua mediterraneum vergit, ubi in planitiem desinit. Vetus enim Latium desertum fere hodie est & squalidum; Austri flatibus immediate objicitur; & variis ejusdem in locis, insaluberrimus aer observatur, utpote circa Ostiam & Portum, æstivo præsertim tempore; quo quidem si aliquis in præfatis aliisque Latii locis pernoctaverit, & exinde urbem revertatur, corripitur statim maligna febri, quam vulgo, ex mutatione aeris dicunt; estque febris hæc sui generis, ab aliis febribus, alias agnoscentibus causas summopere differens, tum in methodo curativa, tum in symptomatis eandem concomitantibus."

*Georg. Baglivi Oper. Omn. pag.* 157, 158.

Lancisi, in his valuable work *De Noxiis Paludum Effluviis*, confirms the facts stated by Baglivi, and adds many others which are extremely important. In his account of a malignant epidemic, in the summer and autumn of 1695, which ravaged a particular district of the city of Rome, to such a degree as nearly to depopulate it, he traces the disease to its cause in the following words:

"Nemo sane luctuosa funera per id temporis Romæ conspiciens, fœtoremque in vicis illis persentiens, dubius hæsit, quin causa malignarum, perniciosarumque febrium, quæ publice vagabantur, fuerit multitudo stagnantium et corruptarum aquarum, tum in scrobibus pratorum, tum in magna cloaca, atque in fossa potissimum Hadrianæ arcis. Tellus jam erat humida, cum Tiberis propter magnam vim aquæ bis auctus est; atque idcirco non solum scrobes, ac fossæ pratorum et Arcis exhauriri non potuerunt; verum quod maxime aeris insalubritatem inducit, sordes, quæ pluviis prolutæ everruntur, ac dilabuntur, iis in canalibus atque in cloacis subsistere coactæ sunt. Simul etiam per humiliora Leoninæ civitatis loca exundavit, subterraneasque cellas, multosque pauperum puteos hic illic contemeravit. Posthæc, negligentia eorum, qui rebus publicis, atque eidem præsertim Arci præerant, nullum studium purgandis hisce regionibus adhibitum fuit. Hinc mira hæc proluvies in limosam paludem sensim intra fossas scrobesque conversa, virescere, jam urgente æstu, fermentari, computrescere, variaque insecta admittere cœpit. His vero malis accessit etiam frequens afflatus Vulturni, austrinorumque ventorum, qui a medio Maio usque ad Septembrem identidem recurrentes, non tantum deteriori putredini immotarum aquarum, verum faciliori quoque sublimationi ac delationi malignorum effluviorum non in vicinas duntaxat ædes, sed etiam usque ad finitimas adversasque regiones, ansam præbuerunt."

*Lancis. Oper. Var. Tom.* 1. *p.* 189.

### *On the Antiquity of the Yellow Fever.*

It has been contended by some, that the yellow fever is a modern disease, and utterly unknown to Europe, except when imported there from America. A slight inspection of the writings of Hippocrates, who flourished upwards of four hundred years before the Christian era, will be sufficient to prove that he was familiarly acquainted with it, and had observed it under its most malignant and fatal forms.

The two symptoms which are considered as most characteristic of this fever, are *yellowness of skin*, and *black vomiting*. A great number of passages might be adduced, to shew that Hippocrates frequently met with these symptoms in the malignant fevers which fell under his care. I shall mention only such as are clear, pointed, and incapable of being mistaken. In the ninth section of his book of Crises, he lays it down as a maxim, that "*in burning fevers, a yellowness of skin appearing on the fifth day, and accompanied by hiccough, is a fatal symptom.* * This is a very brief, exact, and appropriate description of the disease. A greater number are said to die of yellow fever on the sixth than any other day of the disease; and it very frequently happens, that appearances of yellowness are discovered on the fifth, which, at that period, and accompanied by hiccough, constitute a fatal symptom. When the description which Hippocrates gives of *causus*, or *burning fever*, is duly recollected, and there is connected with this fever the occurrence of yellow skin, accompanied with hiccough, on the fifth day, a character results, which can apply to no other disease in the world but yellow fever. And it would be exceedingly difficult, in so few words, to present a more expressive delineation of that distemper.

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* For the sake of removing all doubt on this subject, it is proper to submit the original to the reader's consideration:—

*Εν τοισι καυσοισιν εαν επιγενηται ικτερος και λυξη πεμπταιω εοντι, θανατῶδεις ὑποστροφαι λαμβανονται.*

The terrible symptom of *black vomiting* is also frequently mentioned by Hippocrates, and represented as being of fatal import. He uses the phrases *μελαινα χολη* black bile, *μελανα εμετον* black vomit, and *μελανων εμετον* the vomiting of black matter. In the twelfth section of his prognostics, he asserts, that if the matter vomited be of a livid or black colour, it betokens ill. In the first section of the first book of his *Coan Prognostics*, he enumerates black vomiting in a catalogue of the most fatal symptoms. And also in the fourth section of the same book, he considers porraceous, livid, or black vomiting as indications of great malignancy *.

The importance of this conclusion is further illustrated and confirmed, by adverting to the well known fact, that Hippocrates practised physic, for a considerable portion of his life, in parts of Greece situated nearly in the same parallel of latitude with those in the United States, where the yellow fever has produced its greatest ravages.

*See Medical Repository, Hex. II. Vol.* 3. *page* 107.

On another account, the writings of Hippocrates offer important instruction concerning malignant fevers. Not the least reference to *contagion* is to be found in any part of them. If personal intercourse between the sick and the well had been the means of spreading these fevers from one individual, or from one family to another, it is incredible that so prominent and glaring a fact should have escaped the notice of a person endowed with such talents for extensive, accurate, and discriminating observation.

### *Yellow Fever indigenous in the island of Minorca.*

By the following quotation from *Cleghorn's Observations on the Epidemical Diseases of Minorca, from the year* 1744 *to* 1749, page 175 and 176, it appears that yellow fever often prevailed in that island, more than sixty years ago, and that it was by no means considered as a new or extraordinary disease. It also appears, that the characteristic symptoms of yellow fever, are often superinduced on the intermittent fevers of that place, and that their common tertian fevers are only a lower grade of yellow fever. The island of Minorca is situated nearly in our latitude.

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* *Ει δε ειη το εμευμενον πρασοειδες, η πελιον, η μελαν, οτι αν η τουτεων των χρωματων, νομιζειν χρη πονηρον ειναι.*

" But the utmost danger is to be apprehended, if a few drops of blood fall from the nose: if black matter, like the grounds of coffee, is discharged upwards or downwards: if the urine is of a dark hue, and a strong offensive smell: if the whole skin is tinged with a deep yellow, or any where discoloured with livid spots or suffusions: if a cadaverous smell is preceptible about the patient's bed: if in the time of the fit he continues cold and chilly, without being able to recover heat; or, if he becomes extremely hot, speechless, and stupid; has frequent sighs, groans, or hiccoughs; and lies constantly on his back, with a ghastly countenance, his eyes half shut, his mouth open, his belly swelled to an enormous size, with an obstinate costiveness, or an involuntary discharge of the excrements: which formidable symptoms, as they seldom appear before the third revolution of the disease, so they frequently come on, both in double and simple intermittents, during the fourth, fifth, or sixth period, even where the smallest danger was not foreseen." The author likewise adds, in a note, that "The English in Minorca are more liable than the natives to become yellow in these fevers."

### *On Yellow Fever in the Interior of the Country.*

Sporadic cases of this disease, are occasionally observed in all parts of the country. They are found more frequently, and in greater number, in low and marshy districts, near lakes, mill ponds, swamps, &c. The most respectable physicians in the country so universally concur in this observation, that it would be unreasonable to contest the fact.

In some of the more exposed situations, and after very hot and damp summers, the yellow fever often assumes an epidemic appearance in the country. The malignant disease at Catskill, in this state, in the year 1803, (see *Medical Repository*, Vol. 8. page 105) affords an instance of this kind. In the year 1793, it prevailed in many parts of the country, in the eastern, middle, and southern states, where no suspicion of contagion could exist.

Dr Anthon, of this city, whose accurate acquaintance with the pestilential epidemics of New-York, enables him to decide in the most satisfactory manner, assures me he has often seen the same disease in the interior country, and particularly in the low situations near the river Illinois, after an extensive inundation of that river, succeeded by hot weather.

Mr Volney found yellow fever in several parts of the interior western country, during his travels in America, and describes the disease with so much accuracy and force, that no doubt of his testimony can be entertained.

*See his View of the Climate and Soil of the United States.*

Out of a great mass of particular instances of the appearances of yellow fever, in situations inaccessible to foreign contagion, I shall only now select the following:

### *Extract from Mr Andrew Ellicott's Voyage down the River Ohio, in the month of November* 1796.

" *November* 15*th.*

" Arrived at Galliopolis, about 11 o'clock in the morning.—This village is a few miles below the mouth of the Great Kanhaway, on the west side of the Ohio river, and situated on a high bank; it is inhabited by a number of miserable French families. Many of the inhabitants, this season, fell victims to the yellow fever. The mortal cases were generally attended with the black vomiting. This disorder certainly originated in the town; and, in all probability, from the filthiness of the inhabitants, added to an unusual quantity of animal and vegetable putrefaction in a number of small ponds and marshes within the village.

"The fever could not have been taken there from the Atlantic States, as my boat was the first that descended the river after the fall of the waters in the spring: neither could it have been taken from New-Orleans, as there is no communication, at that season of the year, up the river, from the latter to the former of those places: moreover, the distance is so great, that a boat would not have time to ascend the river, after the disorder appeared that year in New Orleans, before the winter would set in."

*See Ellicott's Journal.*

### *The following fact is communicated by Dr Watkins, from his personal knowledge.*

There is a village called New-Design, about fifteen miles from the Missisippi, and twenty miles from St Louis, containing about forty houses, and two hundred souls. It is on high ground, but surrounded by ponds. In 1797, the yellow fever carried off fifty-seven of the inhabitants, or more than a fourth. No person had arrived at that village from any part of the country where this fever had prevailed, for more than twelve months preceding. Our informant resided in the village at the time; and, having seen the disease in Philadelphia, he declares it to be the same that prevailed at New-Design. He also mentions an Indian village, depopulated by the same disease two or three years before.

*See Medical Repository, Vol. 4. page 74.*

### *Fever, with black vomiting, in the middle part of Pennsylvania, west of the Susquehannah.*

"The fever which prevailed, in the autumn and winter of 1799, in Nittany and Bald-Eagle Valley, in Mifflin county, Pennsylvania, proved, in a number of cases, mortal. Bald-Eagle Valley, situated about 200 miles N. N. W. of Philadelphia, is low, abounding with much stagnated water in ponds, which, from the dryness of the season, became very putrid and offensive to the smell. Near to these waters the fever prevailed with great malignity. It was ushered in by chills, with pains in the back, limbs, and head, which, in 48 or 60 hours, carried off the patients. They discharged vast quantities of filth from the stomach, of the consistence and appearance of coffee-grounds, so offensive in smell, as to produce nausea, and even vomiting, in the attendants. The feces also had the same appearance. In many, the disease terminated by profuse discharges of blood from the anus and vagina.

*Ibid. page 75.*

### *On Dr Chisholm's singular opinions concerning Yellow Fever.*

It is well known that this gentleman contends for the production of a *new* and *peculiar pestilential disease*, which he supposes to have been imported by the ship Hankey, in the year 1793, from Boullam, on the coast of Africa *. He believes this new distemper to have been spread through the West India islands, and transmitted to this country. He admits, that the yellow fever of the West Indies is not a contagious disease. The importers and contagionists in the United States, assuming his opinion, and fortifying themselves by his authority, assert that our epidemics are not the yellow fever of the West Indies, but a continuation of the new and peculiar Boullam fever.

But the slightest examination of the subject, is sufficient to satisfy an impartial inquirer, that the Boullam fever of Dr Chisholm, and the yellow fever of the West Indies, are precisely the same disease; and that only such occasional variations of grade have been observed in it, as are found in the different epidemic seasons of all pestilential distempers. The ravages of pestilence in the West Indies, since the pretended introduction of the Boullam disease, among a given number of Europeans, or other strangers recently arrived, or among the natives themselves, are not greater than they were 50 years ago, or during the war of the American Revolution. The great body of physicians, and people in the West Indies, do not find the fever, now prevailing, at all different from what it was many years before the arrival of the ship Hankey from Boullam. The descriptions of the disease by physicians, who wrote 40, 50, and 60 years ago, precisely agree with what is now observed in those islands, and on this continent. And in this city, the yellow fever prevailed, in the autumn of 1791, two years before the supposed arrival of the Boullam disease by the ship Hankey.

Without recurring, however, to facts of this kind, Dr Chisholm's doctrine, considered in itself, cannot stand the test of examination. All his leading assertions, concerning the pretended introduction of the Boullam fever into the West Indies, are positively denied by Mr Paiba, a gentleman of intelligence, and unblemished character, who was on board of the ship, charged with the importation, during the whole of the voyage. The narrative itself, of the voyage, and of the disease supposed to have been imported, betrays inherent evidence of mistake. And even, if Dr Chisholm's story be admitted, it is only an instance of malignant disease generated in a vessel, as he does not pretend to derive it from the Africans.

Dr Chisholm makes a very elaborate attempt to discriminate the features of the Boullam fever from those of the yellow fever of the West Indies. It is apparent that there is no foundation for the distinction; and that he only describes different grades of the same disease, modified, and rendered more malignant at one time than another, by peculiarities of season. This happens with respect to all epidemic diseases. The measles, for example, in one season, are *mild and safe*, at another, they are *malignant and fatal*; in one epidemic they are *highly inflammatory*, in another they may be *highly putrid*; yet, are they not essentially the same disease? But, admitting, for argument's sake, the distinction contended for by Dr C. it may be still asserted, that, in his description of the

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* An Essay on the Malignant Pestilential Fever, &c. 2d Edit. in 2 vols.

the ordinary yellow fever of the West Indies, and not in that of the Boullam fever, he gives the character of the disease which has so often prevailed in this city.

It is creditable to the candour of Dr Chisholm, that he seems lately, in a considerable degree, at least in effect, to have given up his favourite opinion. He now admits that a disease, similar to that of Boullam, has been since generated on board of a filthy ship from England. It is proper to give his own words, as expressed in an extract of a letter to Dr Davidson, dated Demarara, August 10, 1800, a period of seven years after the formation of his first opinion.

" A fever, of a most alarming nature, has most fatally prevailed since the beginning of July. I have visited a few of the sick, at the request of Doctors Dunkin and Lloyd in town, and of Dr Ord on this coast; and I have no hesitation in pronouncing it a fever of infection. Its features are, almost without exception, precisely those of the malignant pestilential fever of Grenada of 1793 and 1794. It is fully as fatal, as rapid, and as insidious. Its origin, as far as it has been ascertained by the gentlemen I have mentioned, seems to be similar. A ship arrived about the beginning of July, or end of June, from Liverpool, after touching at Surinam. The filth on board, occasioned by a cargo of horses, and the extreme neglect of the officers and crew, was such as beggars description."

*See Medical Repository, Vol. 5. page* 229.

These facts, thus presented by Dr Chisholm himself, form a luminous and instructive commentary on his former opinion, which he had published with great confidence, and which has been implicitly adopted and acted on by the contagionists in the United States. In 1793, he pronounced the malignant disease of Grenada, which, as was observed before, he believed to have been imported from the coast of Africa, a "*nova pestis*," a peculiar, original, foreign pestilence, recently generated, and utterly unknown before, endued with a new and distinct character, possessing new powers of devastation, and capable of propagating itself by contagion throughout the world. As he considered it to have been engendered on board of the Hankey, in consequence of the accumulation of filth, the crowding of a great number of persons within a small space, and the heat of the atmosphere in which the vessel was immersed, he must have ascribed whatever peculiarity he supposed it to possess, to the peculiar state of the air on the coast of Africa; for he did not pretend to derive it originally from the inhabitants of Africa, or any modification of contagion. No other circumstance of the case, therefore, except some unknown singularity of the African atmosphere, could occasion this alleged instance of the generation of pestilence in a ship, to differ from other cases, in which malignant fevers are produced in filthy, crowded, and unventilated vessels, in hot climates, or during hot seasons. But in the year 1800, while the flames of the Boullam disease, lighted up in 1793, were still raging far and wide, and destroying the people of the West Indies, and of the American continent, he finds another "*nova pestis*," generated in a ship from England, which had touched at Surinam, and had become very filthy from a cargo of horses; and what is wonderful, he finds this pestilence, thus originating in a ship from England,

land, possessing *features, almost, without exception, precisely those of the malignant pestilential fever of Grenada, of* 1793 *and* 1794 ; *fully as fatal, as rapid, and as insidious.*—It appears, then, that the facts advanced by Dr C. in the latter case (even admitting those concerning the Hankey to be true), instead of supporting his doctrine of *novelty and peculiarity in the fever of Boullam*, go too far for his purpose, and establish the general principle, that filthy, crowded, and unventilated vessels, immersed in a certain degree of heat and dampness, may generate malignant fever in all parts of the world, where such circumstances are found,—which is precisely the principle for which the advocates of local and domestic origin have always contended.

As to Dr C.'s opinion of the contagiousness of these fevers, it rests upon the same vague and delusive foundation, with the popular, or rather vulgar, inference of contagion, in all cases where a disease attacks a great number of persons in the same vicinity ; which has been sufficiently refuted in a former part of this report.

## VII.

## *Cases of Small-Pox in the Fœtus.* By William Forbes, Member of the Royal College of Surgeons, London.

It has long been a popular opinion, that if persons have not received the small-pox, either from infection, in consequence of repeated exposure, or from inoculation with variolous matter, that they must have undergone the disease previously to their birth.

Medical men, on the contrary, have supposed that the want of susceptibility in such persons, to the infection of the small-pox, was owing to a peculiarity of constitution, which resisted the influence of that disease.

In support of the latter sentiment, the following case is adduced :

Mrs Tagg, 22 years of age, when in the sixth month of her first pregnancy, had the confluent small-pox ; from which, contrary to expectation, she recovered, went her full time, and was delivered of a fine child. Frequent solicitations were made for permission to inoculate the child, which was refused by its parents, from a supposition of its having had the small-pox previously to its birth. However, at the age of 12, the child was inoculated, and had the small-pox in the most satisfactory manner.

The two following cases will, on the contrary, tend to prove, that those persons who have resisted the variolous infection in every form, must have undergone the disease when in the fœtal state.

Mrs Allender of New-cross, had the small-pox when near the termination of her pregnancy; but the disease was so mild, that she was capable of pursuing her occupation as a washerwoman, although in daily expectation of being confined. The infant was born with the small-pox upon it; and, with the mother, is now living.

The next case I shall offer, in support of the occasional occurrence of small-pox in the fœtus, is, I believe, singular; but the truth of the following relation may be fully ascertained, by examining the parties concerned, who are still living.

Margaret, wife of William Crawley, residing at Camberwell, in her infancy had the small-pox severely, to which her countenance, at this time, bears ample testimony, although she is upwards of 50 years of age. In March 1788 she nursed her son Thomas, a child of two years and eight months old, under the confluent small-pox. She was at that time pregnant of her fifth child, and very near the end of her reckoning.

These people, being in low circumstances, had but one room, in which the whole family lived and slept. On the first of April following, at three o'clock in the morning, she was delivered of a girl. Three days after, the boy Thomas died; and, on the same day, I was desired to look at some pimples upon the infant, which proved to be the small-pox, of which, at this distance of time, more than 19 years, she bears on her face, and other parts of her body, incontestible proofs.

Her friends would not allow her to be inoculated with variolous matter, apprehending she might have the small-pox a second time. She has, however, been subject to continual exposure to the natural small-pox.

I think this case proves, independently of all reasoning, that the *fœtus in utero* is liable to the small-pox from the influence of surrounding infection, although the mother have not the disease.

A practical inference may be made from the above case. That mothers should avoid exposing their unborn infants to the infection of this destructive disease, through the medium of themselves.

*Camberwell, April* 15*th* 1807.

VIII.

# VIII.

## *Report from the General Hospital near Nottingham, from March 25th* 1806, *to March 25th* 1807. By JAMES CLARKE, M. D. one of the Physicians to the Charity.

> " C'est dans les collections d'observations multipliées et fidèlement recueillies que la science de la médecine a trouvé son origine, et puisé ses progres ; et c'est de la méme source que jailliront desormais les additions et les extensions que l'on pourra apporter aux preceptes dont elle se compose."
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> Double, Journal General de Médecine, Tom. XXVII. p. 181.

AN hospital has ever been considered a great depository of medical information, where facts are daily observed, that contradict the most beautiful theory, silence useless disputes, and, in in some measure, fix the standard of practice : Yet, how seldom are medical reports, from these institutions, presented to the public. It certainly cannot arise from the little attention such contributions have received, for *where* can the indications of cure be more effectually fulfilled ? *Where* can the treatment be so steadily pursued ? Surely not in private practice, exposed, as it too often is, to the officious intrusions of the ignorant, or the irritating obstinacy of the prejudiced. It is in hospitals, that instructions are followed with promptitude, and every means afforded, that can alleviate the pain of disease, or sooth the misery of poverty.

In this institution, it is customary to draw up the case of each patient, to which the medical practitioner adds any future observations he may think expedient, to elucidate the nature of the disease.

This method, indeed, is sometimes pursued in private practice, and to it we owe the able commentaries of Heberden, and probably other productions of manifest utility ; but private practice seldom affords the advantages to be met with in hospitals. It is not sufficient that the medical men should be able and attentive, but it is also requisite, that the attendants on the sick should be capable of supporting his exertions to overcome the disease.

It is, then, greatly to be lamented, that medical communications are not regularly made from public charities, where such opportunities must occur of seeing, and inquiring into the phenomena of diseases. On this subject, a modern author, of great repute, makes the following just observation : " To many of our predecessors, and many of our contemporaries, the healing art is

deeply

deeply indebted, for what they have recorded of their hospital practice, nor would I desire a more conclusive argument. For, if a part is so valuable, what would the whole be? And what, according to a just estimation, are the facts that have been preserved, but *fragments* of a mighty wreck, demonstrating the value of the mass that has perished?" *

Animated by the desire of contributing his mite to the "*fragments*," the reporter presents to the public, a view of the practice of medicine and surgery, at "the General Hospital near Nottingham," for the last year. In the performance of this undertaking, he thinks it necessary to commence, by a general, but brief account, of the town of Nottingham.

The town of Nottingham is mostly built on a soft sandstone rock, considerably elevated above the level of its rivers, is nearly encompassed by hills, which protect it from the inclemency of winter, whilst it is open to receive the genial breezes of the south. Many habitations are built against the rock, and some even in the rock itself; yet such is the natural dry quality of this stone, that they are not subject to dampness, although but little above the level of the rivers. The habitations are generally of brick, from three to four stories, with excellent cellars, and sometimes kitchens in the rock.

The town is well supplied with water. The Trent, a very rapid and navigable river, runs close by the town, from west to east; and the river Leen, after running in the same direction, through the lower part of the town, falls into the Trent. The water, in general use by the inhabitants, comes either immediately from the Leen, or from a reservoir near the hospital, filled by a machine, erected by the water company, on the banks of this river, which directs the supply necessary for the whole town; and by the convenience of pipes, each house may be supplied with the requisite quantity of water at a moderate expence. This water is commonly used for washing and culinary processes, for which it answers very well, although it contains a small portion of the sulphate of lime.

The town is, in every part, well supplied with springs of excellent drinking water, all about the same specific gravity, containing a similar impregnation of sulphate of lime, and uncombined carbonic acid.

There are three public cold baths; one, from being an excavation of the rock, preserves the water at nearly the same temperature. It may not be foreign to our subject, to observe here, that the habitations, cellars, &c. cut in the rock, continue, at all seasons of the year, at very nearly the same temperature, as ascertained by actual experiments with the thermometer; although our sensations may indicate a different result, as in winter they feel warm, and in summer proportionably cold.

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* Beddoes's Contributions, p. 13.

Warm baths are procured with great facility. Every mill may be provided with a bath, by directing the waste of the steam-engine into a bathing tub, and at little or no expence; that which before was allowed to run waste, may afford relief in disease, or add to our enjoyments.

Close to the south side of the town, and between the two rivers, is a mineral spring. The water is found to contain a moderate proportion of carbonate of iron, uncombined carbonic acid, and sulphate of lime, and has always been esteemed a good chalybeate.

The immediate neighbourhood supplies excellent coal, at a moderate price, which is the only fuel used in the town, and a great object with the poor in winter.

In the year 1801, the population of the town itself was ascertained, by actual computation, at 29,000; since which time, the increase from the usual births, and influx of strangers, must be very great, and probably make it amount to 31,000; if, to this number, we add the population of the immediate suburbs, within half a mile round the town, and depending immediately upon the town, the probable estimate of the whole may be laid at 34,000; and from the value now attached to building land, it must be on the increase: *extra* parochial ground, at common auction, sells, upon an average, of 18s. the square yard; and land in the parishes, upon an average, of 12s. 6d., which is no sooner built upon than occupied.

Among the lowest class, a family occupies one room, in which stands the frame of the husband and his bed; in this apartment, himself, his wife, and children, must live, work, and sleep. During the winter they have a fire, and every visible chink, that might favour ventilation, is cautiously closed.

The manufactories of lace and hose, employ most families; in both, the father, mother, and children above seven years of age, can procure their subsistence. The husband, at the frame, will earn, upon an average, 18s. per week; his wife, at tambouring, &c. 8s.; and each of his children about 2s. per week. In some of the large manufactories, men, women, and children, are congregated together, in a manner as destructive to their morals as to their health, twenty or more in one room, and as much external air as possible excluded.

The town is amply supplied with provisions of every kind. There are two markets held each week, and abundance of very fine meat exposed to sale; beef, veal, and pork, at 7d per pound, mutton 6d; the vegetables are good and plentiful; the fish is brought from a considerable distance, and, of course, seldom falls within the reach of the poor; flour is 3s. per stone; the bread is particularly good, but most poor families have long been in the habit of making all they require for their own use; milk, as must be the case in most large towns, is very dear, and with difficulty procured at 4d. per quart; cheese is 8d. per pound.

The food of the lower class is bread, cheese, vegetables, puddings, milk, broth, and, two or three times a-week, meat; their drink, water and ale. The smoking of tobacco has of late gained many votaries; the women are more addicted to this disgusting habit than the men, as well as to the use of snuff, and the drinking of tea, two of their greatest luxuries. Their attachment to these habits is so strong, that it is impossible to convince them of their noxious effects, particularly whilst tobacco is considered, and recommended to each other, as an infallible remedy in disorders of the chest and stomach, diseases too often produced by these practices.

The situation of the town is considered particularly favourable to health. Dr Deering, in his history of Nottingham, written in 1757, remarks, that once in five years there appears an epidemical disorder in the town, but that these disorders are much less violent in the lower parts of the town, and particularly in a street called the Narrow Marsh, where not an individual died during the great mortality from the plague in 1667; and, at that time, this part of the town became the resort of the rich; it was the abode of the tanners; and Deering conjectures, that the effluvia from their pits preserved the neighbourhood. At the period Deering mentions, no doubt an epidemic made its appearance very regularly; but, for these last 25 years, no epidemic has returned periodically. As to his conjectures respecting the tanpits, at the present time, there are very few tanners in the town; and yet that part of the town is as little subject to disease, notwithstanding its local disadvantages, as the more elevated, and apparently more healthy, situations.

In this low part of the town, on a level with the river Leen, are many habitations built on the banks of it, and subject to inundation at every overflow of the Trent. It is indeed a matter of great surprise that the inhabitants do not experience any serious indisposition, from fevers, rheumatism, &c. The typhus fever, when it does appear, is in general mild, and seldom proceeds beyond the individual first attacked; and, by the report, it will appear, that rheumatism is far from being a prevalent disease.

In other situations closely inhabited, where there are low grounds retaining stagnant water, and which must be constantly giving out exhalations from putrid animal and vegetable substances, typhus is not common, and intermittent fever scarce known. Most of the patients applying for medical aid bring this disease from the fens of Lincolnshire.

The average quantity of rain that falls annually in this town may be estimated at 24 inches; but the Trent swells more from the quantity of water it receives from Derbyshire than from the rain in this neighbourhood. The quantity of rain that has fallen in Nottingham, from March 1806 to March 1807, may be reckoned at 22.36 inches, which is much below the average quantity above cited.

The *General Hospital,* built and supported by public subscription, was first opened for the admission of patients in 1782, and receives all objects of charity, of whatever town or nation. It is situated on a very elevated spot on the rock, fronting the south, on the west of the town, with the south, west, and north, entirely open to the country. There is a small open space of ground in front, and a garden for the convenience of the house.

The entrance to the hospital is from the south; on the right of the hall is the out-patient room; on the left, the medicine room; in front, the committee room: all that story is occupied by rooms for the medical attendants and household, with the cold and warm baths. The second story has four wards, and a staircase on the right, for female patients; and seven wards, with a staircase on the left, for male patients; in the centre, the operation room, with a ward on each side for operated patients; in all 60 beds. The wards are warmed by heated air, conducted into each apartment upon the most improved plan, as used in some of the largest manufactories in Nottinghamshire and Derbyshire; a thermometer is placed in each ward, that it may be preserved as near as possible to 60° of Fahrenheit; the better to effect this, the mouths of the tubes are closed by a door of cast iron graduated so as to increase or diminish the aperture at pleasure. In this process, the annual consumption of coal is less, by nine tons, than when common fires were employed; the room is kept at nearly an equal temperature; and smoking, drinking tea, warm ale, &c. are entirely prevented. The direction of the hospital is intrusted to a president, two auditors, and a board of governors, all these officers are annually elected. Two visitors are appointed every week, in rotation, out of the number of governors, who visit the house as often as they think proper, during their week, to see that the patients are provided with what is necessary; to hear their complaints, if trifling, to redress them; or otherwise, to report them to the weekly committee, which is composed of the annual board, and open to any other governors that may please to attend; this committee meets every Tuesday, for the admission and discharge of patients, and other business that calls for immediate attention.

Persons recommended by a governor, whatever may be the nature of their disease, if considered objects of charity by the committee, are received as patients; but are not admissible into the house, when affected with any contagious disease, consumption, fits, or syphilis. These objects are made out-patients; and the physicians occasionally visit them at their own habitations. Accidents are immediately brought to the hospital; and do not require any recommendation. There are three physicians and three surgeons, who attend gratuitously; each take their week, and the patients received by them continue entirely under their care. In cases of difficulty, they may call for the advice of the physician-extraordinary, or for a consultation of the Faculty of the hospital, which is generally done previous to the performance of any operation.

The medical men visit their respective in-patients at what periods they think most fit; the out-patients are requested to attend once a week, on a day appointed by the practitioner under whose care they are received. If they omit attending, or sending a report of their case, for a fortnight, they are dismissed for non-attendance; and thus forfeit all right to the charity.

The hospital is supplied with water from the reservoir near it.

The food of the patients is divided into,

I. Full diet. Breakfast, milk pottage. Dinner, Sunday, Tuesday, Thursday, and Saturday, meat eight ounces, vegetables, broth. Monday, Wednesday, and Friday, puddings and vegetables. Supper, bread and cheese *.

II. Half diet. Breakfast, milk pottage. Dinner, Sunday, Tuesday, Thursday, and Saturday. Meat, two ounces, and a pint of broth. Monday, Wednesday, and Friday, pudding. Supper, cheese and bread *.

III. Milk diet. Breakfast, milk pottage. Dinner, puddings. Supper, milk pottage. Common drink, three pints of milk and water. Bread as the others.

In the annual report which the auditors of the hospital present to the public, the governors are informed of the state of the charity; the receipts and disbursements are pointed out, and a general table given of the numbers that have applied for medical assistance, with the relief afforded. The following is copied from

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* Every day a loaf of bread, 14 ounces. Beer, a quart per day.

from the last report, and presents a table of the whole number that have applied for medical assistance, with the result, from the first opening of the house, to the report of this year, inclusive.

*General Account of Patients admitted and discharged since the first opening,* 19*th September* 1782, *to* 25*th March* 1807.

| | In. | Out. | Total. |
|---|---|---|---|
| Patients admitted and discharged since the first opening, to 25th March 1806, | 7850 | 18,664 | 26,514 |
| Admitted, from 25th March 1806, to 25th March 1807, | 307 | 1268 | 1575 |
| Total, | 8157 | 19,932 | 28,089 |
| Cured, | 4167 | 14,644 | 18,811 |
| Relieved, | 582 | 1114 | 1696 |
| At their own request, and for irregularity, | 423 | 296 | 719 |
| Non-attendance, (most of whom were cured), | — | 2530 | 2530 |
| Without relief, | 122 | 98 | 220 |
| * Dead, | 472 | — | 472 |
| Out-patients made in-patients, | — | 819 | 819 |
| In-patients made out-patients, | 2333 | — | 2333 |
| Remain on the books, 25th March 1807, | 58 | 431 | 489 |
| Total, | 8157 | 19,932 | 28,089 |

Of this number, 2363 persons were admitted on sudden accidents, without any recommendation; and there have been, since the first opening, 122 amputations, 24 breasts cut off, 9 trepanned, and 32 cut for the stone.

The average number of the last year has been, 51 in, and 427 out-patients.

This report may be considered, and certainly is, very satisfactory to the Governors; but, to fulfil the object in view, it is necessary that a more detailed account should be given, specifying the number of patients admitted under each disease. Although it will require much labour to draw up a table of this nature, yet the advantages that immediately present themselves are so great, that the reporter is anxious to perform his undertaking with as much accuracy as possible; but, he is convinced, that, from the difficulty of distinguishing some nice shades of difference, and properly arranging anomalous cases, error must unavoidably creep in—it will be his endeavour to make it as slight as possible.

DISEASES.

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* No accurate account of the deaths of the out-patients can be given.

| DISEASES, | From March 25th to 30th. | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | To the 25th of March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tertiana, | | | 1 | | | | | | | | | | | 1 |
| Quotidiana, | 1 | | | | | 1 | | | | | | | | 2 |
| Synocha, | | | | 3 | 1 | 1 | | | | | | | | 5 |
| Typhus, | | | | | | 3 | 3 | 3 | | | 2 | | | 11 |
| Febricula, | 1 | 2 | 5 | 1 | 3 | 2 | 6 | 1 | 1 | 4 | 2 | 4 | 1 | 33 |
| Ophthalmia, | 1 | 5 | 6 | 3 | 5 | 3 | 1 | 4 | 1 | 4 | 2 | 3 | | 39 |
| Psorophthalmia, | | | | | | | | | 1 | | | | | 1 |
| Phrenitis, | | | | | | | 1 | | | | | | | 1 |
| Cynanche trachealis, | | | | | 1 | | | | | | | | | 1 |
| Cynanche tonsillaris, | | | | | 1 | | 1 | | | | | | | 2 |
| Pneumonia, | | | 1 | 1 | 6 | 1 | 1 | | | 2 | | 1 | 2 | 15 |
| Hepatitis, | 1 | 2 | 2 | 6 | | | 1 | 1 | | 1 | 2 | 2 | 1 | 19 |
| Nephritis, | | | | | | | 1 | 1 | | | | | 1 | 3 |
| Rheumatismus, | | 9 | | 1 | 1 | 1 | | 2 | | 3 | | | | 17 |
| Arthrodynia, | | 4 | 6 | 2 | 8 | 1 | 7 | 4 | 3 | 3 | 4 | 5 | 6 | 53 |
| * Pleurodynia, | | | | 1 | 1 | | | | 1 | | | | | 3 |
| Arthropuosis, | | | | | | | | | | 1 | | | | 1 |
| Erysipelas, | | 1 | 1 | | | | | | | | | | | 2 |
| Hæmoptysis, | | | | 1 | | | 2 | | | 1 | | | 2 | 6 |
| Carried forward—Total, | 4 | 23 | 22 | 19 | 27 | 13 | 24 | 16 | 7 | 19 | 12 | 15 | 13 | 215 |

* *Sauvages Nosologia Methodica.*

| DISEASES. | From March 25th to 30th. | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | To the 25th of March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brought forward, | 4 | 23 | 22 | 19 | 27 | 13 | 24 | 16 | 7 | 19 | 12 | 15 | 13 | 215 |
| Phthisis, | 1 | 12 | 17 | 6 | 9 | 8 | 8 | 3 | 3 | 5 | 4 | 6 | 12 | 94 |
| Hæmorrhois, |  |  |  | 1 |  |  |  | 1 |  | 1 |  |  | 1 | 4 |
| Menorrhagia, | 1 |  |  | 3 | 4 |  |  |  | 1 |  | 1 | 2 |  | 12 |
| Leucorrhœa, |  |  |  | 2 | 3 |  | 1 |  | 3 |  |  |  | 1 | 10 |
| Hæmatemesis, |  |  |  |  |  |  |  | 1 |  |  |  | 1 |  | 2 |
| Hæmaturia, |  |  |  |  |  |  |  |  |  |  |  | 1 |  | 1 |
| Catarrhus, | 2 | 17 | 5 | 4 | 5 | 9 | 3 | 4 | 4 | 2 | 7 | 5 | 11 | 78 |
| Dysenteria, | 1 |  |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Apoplexia hydrocephalica, |  |  |  |  |  |  | 1 |  |  |  |  |  |  | 1 |
| Paralysis, |  | 4 |  | 1 | 3 |  | 1 | 2 |  |  | 1 |  | 5 | 17 |
| Syncope, |  | 1 |  |  |  |  |  |  |  |  |  |  |  | 1 |
| Dyspepsia, | 1 | 23 | 17 | 18 | 16 | 11 | 22 | 13 | 7 | 18 | 10 | 11 | 19 | 186 |
| * Gastrodynia, |  |  | 3 | 1 |  |  | 2 |  |  |  |  | 1 |  | 7 |
| Hypochondriasis, |  | 2 | 1 | 1 |  | 1 |  | 1 |  |  |  |  | 2 | 8 |
| * Obstipitas lateralis, |  |  |  |  |  |  |  | 1 |  |  |  |  |  | 1 |
| Chorea, |  | 1 | 2 |  |  |  |  |  |  |  |  |  | 1 | 4 |
| Epilepsia, |  |  |  |  |  |  |  |  | 1 |  |  | 1 | 1 | 3 |
| Palpitatio, |  |  | 1 |  |  |  |  |  |  |  | 1 |  | 1 | 3 |
| Carried forward—Total, | 10 | 83 | 68 | 56 | 67 | 42 | 62 | 42 | 26 | 45 | 36 | 43 | 67 | 648 |

* *Sauvages Nosologia Methodica.*

| DISEASES. | From March 25th to 30th. | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | To the 25th of March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brought forward, | 10 | 83 | 68 | 56 | 67 | 42 | 62 | 42 | 26 | 45 | 36 | 43 | 67 | 648 |
| * Asthma, |  | 2 |  |  |  |  |  | 2 | 1 | 3 | 5 | 2 | 3 | 18 |
| Pertussis, |  | 1 | 1 | 2 |  |  |  |  |  |  |  |  |  | 4 |
| Colica pictonum, |  |  |  |  |  |  |  |  |  |  |  | 1 |  | 1 |
| Cholera, |  |  |  | 3 |  | 1 |  |  |  |  |  |  |  | 4 |
| Diarrhœa, |  |  | 2 | 1 |  |  | 1 |  |  |  |  | 1 |  | 5 |
| Diabetes, |  |  |  |  |  |  |  |  |  |  |  | 2 |  | 2 |
| Hysteria, |  |  |  | 2 |  | 3 | 3 |  | 1 |  | 2 |  |  | 11 |
| * Cephalalgia, |  |  |  | 2 |  | 1 | 1 |  |  | 1 | 1 |  |  | 6 |
| * Hemicrania, |  |  |  |  |  |  |  |  |  | 1 |  |  |  | 1 |
| Tic douloureux, |  |  |  |  |  |  |  |  |  |  |  | 1 |  | 1 |
| Vertigo, |  |  | 1 |  | 1 |  |  | 1 |  |  |  |  |  | 3 |
| Tabes, | 1 | 4 | 3 |  | 1 | 2 | 1 | 2 | 1 | 3 |  | 1 |  | 19 |
| Atrophia, |  | 2 |  | 1 |  | 1 |  | 1 |  |  |  | 1 | 1 | 7 |
| * Asthenia, | 1 | 5 | 2 | 3 | 1 |  | 2 | 3 | 2 | 4 | 1 |  | 2 | 26 |
| Anasarca, |  | 3 |  | 3 | 1 | 1 |  | 4 | 1 |  | 1 | 1 |  | 15 |
| Hydrorachitis, |  |  | 1 |  |  | 1 |  |  |  |  | 1 |  |  | 3 |
| Hydrothorax, |  | 2 |  |  | 1 |  |  | 2 |  |  |  |  |  | 5 |
| Ascites, |  | 1 | 1 | 1 | 1 |  |  |  |  |  |  |  | 4 | 8 |
| Carried forward—Total, | 12 | 103 | 79 | 74 | 73 | 52 | 70 | 57 | 32 | 57 | 47 | 53 | 77 | 787 |

* *Sauvages Nosologia Methodica.*

| DISEASES. | From March 25th to 30th. | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | To the 25th of March. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brought forward, | 12 | 103 | 79 | 74 | 73 | 52 | 70 | 57 | 32 | 57 | 47 | 53 | 77 | 787 |
| Hydrocele, | | | | | | | | 1 | 1 | | | | 1 | 3 |
| Physconia, | | | | | 2 | | | | | 1 | | 1 | | 4 |
| Phlegmatia dolens, | | | 1 | | | | | | | | | | | 1 |
| Angina pectoris, | | | 1 | | | | | | | | | | | 1 |
| Scrophula, | | 6 | 7 | 2 | 4 | | 2 | 1 | 2 | 5 | 1 | 3 | 3 | 36 |
| Syphilis, | 1 | 1 | | 1 | 2 | 3 | 2 | 2 | 2 | | 1 | 2 | 1 | 18 |
| Lepra vulgaris, | | | 1 | 1 | | | | | 1 | | | | | 3 |
| ——— alphos, | | | | | | | | 1 | | | | | | 1 |
| Psoriasis guttata, | | 1 | | | | | | | | | | | | 1 |
| Lichen simplex, | | | | | 2 | 3 | | | | | | | | 5 |
| Prurigo mitis, | | | | 1 | 1 | 1 | 3 | | | | | | | 6 |
| ——— senilis, | | 2 | | | 1 | | | | | | | | | 3 |
| ——— pudendi muliebris, | | | | | | 1 | | | | | 1 | | | 2 |
| Purpura, | | | | | | | | 1 | 1 | | | | 1 | 3 |
| Erythema, | 1 | | | 1 | 2 | | | | | | 1 | | | 5 |
| Herpes, | | 1 | | | 2 | | | 2 | | 1 | | 1 | 1 | 8 |
| Scabies, | | 1 | 1 | | | 1 | | | 1 | 1 | | | 1 | 6 |
| Porrigo, | | 1 | 3 | 5 | 3 | 2 | 1 | | | 2 | | | 1 | 18 |
| Icterus, | | 1 | 1 | 3 | | | 1 | | | | 3 | 1 | 1 | 11 |
| ——— calculosus, | | | 1 | 1 | | | | | | | | | | 2 |
| Carried forward—Total, | 14 | 117 | 95 | 89 | 92 | 63 | 79 | 65 | 40 | 67 | 54 | 61 | 87 | 924 |

| DISEASES. | From March 25th to 30th. | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | To the 25th of March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brought forward, | 14 | 117 | 95 | 89 | 92 | 63 | 79 | 65 | 40 | 67 | 54 | 61 | 87 | 924 |
| Caligo corneæ, | | 1 | 4 | | | 1 | | | 1 | 1 | 1 | | | 9 |
| Amaurosis, | | 1 | | | | | 1 | | 2 | | 1 | | | 5 |
| Dysecæa, | | | | | | | | | | 1 | | | | 1 |
| Eneuresis, | | | | | 1 | | | | | | | | | 1 |
| Gonorrhœa, | | 1 | | | | | 1 | 1 | | 2 | 1 | 1 | | 7 |
| Ischuria, | | 2 | | | | | | | | | | | | 2 |
| Dysuria calculosa, | | | 1 | 5 | 6 | 2 | 4 | 1 | 1 | 3 | | 3 | 1 | 27 |
| ——— mucosa, | | | 1 | 1 | 1 | | | | | | 1 | | | 4 |
| ——— spasmodica, | | | | | 1 | | | | | | 1 | | | 2 |
| Calculus vesicæ, | | | | 1 | | | 1 | 1 | | | | 1 | | 4 |
| Strictura urethræ, | | | | | | | | 1 | 3 | 1 | 1 | 1 | 2 | 9 |
| Amenorrhæa, | | 9 | 4 | 7 | 6 | | 7 | 6 | 1 | 1 | 2 | 6 | 11 | 60 |
| Vermes, | | 3 | 1 | 4 | 4 | 6 | 2 | 2 | | 3 | 1 | 3 | 3 | 32 |
| Varix, | | | | | | 1 | | | | | | 1 | | 2 |
| Tumores, | | | | 2 | | 3 | 3 | 1 | 1 | | 2 | | | 12 |
| Bronchocele, | | 3 | 1 | | 2 | | | 1 | 2 | | 3 | 1 | | 13 |
| Scirrhus, | | | | | | | | | | | | 3 | | 3 |
| Carcinoma, | | 3 | 1 | 1 | 3 | | | 1 | | 2 | | | 1 | 12 |
| Hydarthrus, | 1 | 3 | | 2 | | | | 1 | 1 | 1 | 1 | | 1 | 11 |
| Hernia inguinalis, | | | | 1 | | | | | | | | | | 1 |
| Carried forward—Total, | 15 | 143 | 108 | 113 | 116 | 76 | 98 | 81 | 52 | 82 | 69 | 81 | 106 | 1141 |

| DISEASES. | From March 25th to 30th. | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | To the 25th of March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Brought forward, | 15 | 143 | 108 | 113 | 116 | 76 | 98 | 81 | 52 | 82 | 69 | 81 | 106 | 1141 |
| Hernia umbilicalis, |  |  |  |  |  |  |  |  |  |  | 1 |  |  | 1 |
| Prolapsus uteri, |  |  |  |  |  |  |  | 1 | 1 |  |  |  |  | 2 |
| Polypus, |  |  |  |  | 1 |  |  |  |  | 1 |  |  |  | 2 |
| ——— uteri, |  |  |  |  |  |  |  |  |  |  |  |  | 1 | 1 |
| Fistula lacrymalis, |  | 1 |  |  | 1 | 1 |  |  |  |  |  |  |  | 3 |
| ——— in ano, | 1 |  | 1 | 2 | 1 |  | 1 |  | 1 |  |  |  | 2 | 9 |
| Luxatio, |  | 1 | 1 |  |  |  | 1 |  |  |  | 3 | 1 |  | 7 |
| Vulnus, | 7 | 16 | 4 | 11 | 1 | 2 | 8 | 6 | 6 | 9 | 5 | 4 | 6 | 85 |
| Ulcus, | 5 | 21 | 6 | 7 | 20 | 8 | 11 | 5 | 9 | 9 | 9 | 5 | 5 | 120 |
| Fractura, |  | 2 |  | 3 | 9 | 2 | 3 | 2 | 4 |  | 1 | 3 |  | 29 |
| Caries, |  | 1 | 3 | 1 | 1 |  |  |  |  |  |  |  |  | 6 |
| Contusio, | 1 | 2 | 16 | 6 | 7 | 11 | 10 | 10 | 11 | 6 | 3 | 5 | 4 | 92 |
| Concussio, |  |  |  |  |  |  |  |  |  |  | 1 |  |  | 1 |
| Apostema, |  |  | 2 | 2 | 3 |  | 1 |  | 1 | 6 | 3 | 1 | 4 | 23 |
| General Total, | 29 | 187 | 141 | 145 | 160 | 100 | 133 | 105 | 85 | 113 | 96 | 100 | 128 | 1522 |

In the general regulation of this table, the nosology of Cullen has been adopted, for very obvious reasons, liable to slight deviations, which are noted; but in the cutaneous diseases, the system so accurately laid down by Willan, which is so well illustrated by the plates, has been closely pursued.

There is an awkwardness in the table which it is impossible to avoid. It is necessary that this report should, with respect to time, agree with that presented to the governors by the auditors, which is dated from Lady-day to Lady-day, so that, in the table, the first column presents only a period of six days; but the number of cases admitted in that time, had they been placed in the column for April, would have destroyed the result that might be drawn by a comparison of months. The same defect, but in a much less degree, must act upon the last column, which is six days less than the month, by concluding with Lady-day. It is not necessary to enter more into detail, in explanation of the table, the plan is obvious, and must be seen in a moment.

## THE INQUIRER. No. X.

### *On the Royal Touch, and on Quackery.*

> " Thus, puffing quacks, some caitiff wretch procure,
> " To swear the pill or drop has wrought a cure." GOLDSMITH.

THERE needs no stronger proof of an opinion being false, than to find very great absurdities annexed to it; and the history of the repeated efficacy of the royal touch, for the cure of scrophula, affords abundant proof of the truth of this axiom. No one now doubts, that the prevailing notions upon this subject were unfounded; but what are we to say to the direct and positive testimony of Browne and Wiseman? What must we think of the assertions made by some of the most learned men of that age? They might be deceived in the circumstances that came under their observation; but, as no arguments are brought forward to support belief, we must place their assertions, along with swarms of others which are to be found in medical writings, in the list of nothing, because they are neither consonant unto reason, nor confirmed by experiments. In some cases, the character and motives of those, whose authority is mostly relied on, may serve to determine a question, independent of the weight of evidence and argument in its favour. The belief in the efficacy of the royal touch was evidently a party-tenet: it was therefore encouraged by the sovereigns, and upheld by all who were disposed to please the court, and so make their way to places and preferment; and it never was openly attacked by those who might not give credit to it, through fear, probably, of incurring the suspicion of being disaffected to the government. *Edward* the Confessor began the practice; and the opinion of his sanctity procured general belief among his people. His successor found it politically expedient to keep up the same delusion; and the custom was first dropped by the present royal family, "who observed, (says Hume), that it could no longer give amazement, even to the populace, and was attended with ridicule in the eyes of all men of understanding." Wiseman quotes no case, from his own private practice, for which he ever prescribed this remedy, although he has described his method of treating scrophulous diseases with sufficient minuteness. The same patients applied to be touched more than once, which ascertains the fact of the remedy not always being effectual, and of its not being universally thought so. Both Wiseman and Browne were warmly attached to the king's party; and they might encourage the common error, *("Si vulgus vult decipi, decipiatur,")* by conniving at the general belief of the unlimited power of the crown. In fulfilling their duties as examining surgeons, they were cautious what cases they admitted; all complaints were not allowed to come indiscriminately before the king; and the most unpromising cases of scrophula were not submitted to the royal hands. Some of the cures may thus be satisfactorily accounted for:—faith will do much towards making the diseased whole; and experience shows what influence the state of the mind has upon ulcers and wounds, in hospitals and camps belonging to a victorious or to a conquered army. The sensibility of the system, in weak scrophulous habits, would be roused into action; and their complaints would be indirectly affected by the imagination, which must have been powerfully struck by the magnificent splendour of the ceremony. Let us suppose a poor ignorant peasant, labouring under some scrophulous disorder, and desirous of being cured, brought from a distance in the country to the metropolis, and led with great pomp before his sovereign, and an august assembly, where he is submitted to a mode of treatment of which he has heard such wonders, and from which, he is convinced beforehand, he shall experience prodigious benefit. Is it not likely such a patient would really receive some benefit from being touched? We may easily believe the fact. Moreover, slight cases undergo spontaneous changes, especially in warm weather; and the approach of summer would therefore assist the operation of the ceremony, performed in the months of March and April.

With regard to the healing efficacy of a handkerchief dipped in the blood of Charles I., that is very well attested, by competent witnesses, in Browne's book; and it seems the highest effort of enthusiastic loyalty. Nothing can go beyond it; and in any other country but this, our wonder would be excited to read of anybody's credulity going so far. But the various pretensions and impostures daily practised by quacks, afford an irrefragable proof of the extreme credulity of the English nation. No opinion, however absurd, has ever been without a welcome among some people; yet credulity is more circumscribed, it infects the higher orders of the community less than formerly, though it still prevails; and the same subjects will always continue for the world to be credulous and superstitious about. Astrologers and fortune-tellers, quacks and mountebanks, play their tricks, and deceive the people in lower degrees, and in more private ways. In the last century, Sir Kenelm Digby pretended to have discovered a sympathetic remedy, which cured wounds, solely by rubbing it upon the instrument which inflicted them. One *Greatrix*, an Irishman, used to cure many disorders by *stroaking*; and the early volumes of the Philosophical Transactions show, how this impudent fellow imposed upon the celebrated Mr Boyle and others. This convenient artifice has been revived, and is, at this time, in some repute, as well as many other *infallible nostrums*, which are every day sold and advertised, to the scandal of the government. There are laws for the prevention of quacks, and they ought to be carried into execution, for the number and insolence of these interlopers has increased of late, and they are rather encouraged by the legislature, which, by an ill-judged policy, allows patents to be granted to a set of ignorant and unprincipled scoundrels, and make some medicines objects of taxation. When *Mesmer* and his animal magnetism were in vogue at Paris, the French King appointed a commission for inquiring into the real merits of this discovery; and though it was proved to be an imposition, yet the effects ascribed to it were satisfactorily traced to the influence of the imagination. Dr Franklin was one of the commissioners, and several others, who, not being medical men, could have no motive but the love of truth; they published a report, which is quite a masterpiece of philosophical inquiry, and ought to be imitated upon all similar occasions. In order to establish the reality of an extraordinary cure, three points of evidence are essentially necessary: 1st, That the disease existed. 2d, That it was cured; and, 3dly, That the alleged means were what alone performed the cure. These circumstances, however, are seldom attended to by those who deal in wonderful cures and extraordinary remedies; the boldest assertions in medical records shrink into nothing before a patient and critical examination; and thus, inconsistent with itself, is an extravagant pretension ever found to be. "It was enough, (says a sensible writer), to refute the impudent claims of the alchemists, that these pretended gold-makers were beggars in rags; and it is a convincing proof that the royal touch cannot cure the king's evil, when it becomes the evil of kings. For my own part, indeed, I cannot help wishing this royal remedy for scrophula had not gone out of fashion, if it ever could be of any service. I wish, most heartily, that all remedies would answer the encomiums bestowed upon them; that kings, as well as commoners, could heal the sick, and newspaper doctors prove for once infallible; so should we get rid of the "*opprobria medicorum*;" so should we set at naught that first and most uncomfortable aphorism of Hippocrates, "for surely that art were soon attained, that hath so general remedies; and life could not be short, were there such to prolong it." R.

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## PART II.

### CRITICAL ANALYSIS.

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### I.

*Dr Joseph Frank's öffentlichen Lehrers der Pathologie, und ihre Darstellung am Krankenbette auf der Kaiserl. Russichen Universität zu Wilna, &c. Reise nach Paris, London, und einem grossen Theile des übrigen Englands und Schottlands in Beziehung auf Spitäler, Versorgungs häuser, übrige Armen-Institute, Medizinische Lehranstalten, und Gefängnisse.* 2 Theile. 8vo. Wein, 1804–1805.

In an extremely candid preface, Dr Frank relates the objects of his travels through France and Great Britain, the motives which induced him to publish the information he collected regarding their medical and charitable institutions, and the difficulties which, in common with every stranger, he experienced, in forming a correct estimate of customs and manners deviating much from those of his native country.

> "Often have I had occasion to be thankful, that I did not enter upon my travels ten years ago, at the age when most physicians are accustomed to look somewhat around them in the world. Probably, in that case, I would only have considered as good physicians, those who practised according to the new doctrines; I would only have approved of such methods of teaching as agreed with those of the university in which I was educated; and I would have expected to find in hospitals, charitable institutions, and prisons, every thing which my ideas of perfection, without regard to circumstances, would have dictated."

Dr Frank commences his work with an account of the charitable institutions of Paris. These are immediately under the direction of a general council, and an executive committee. The former consists of fourteen members, who perform that office gratuitously. They meet twice a-week, for the consideration of whatever regards the service, support, and expenditure of the hospitals; and submit their proposals to the Minister of the Interior, for his approbation. They have lately allotted to each of their number the particular superintendance of certain hospitals, a change which has been attended with the greatest advantage.

The executive committee consists of five members, who have salaries. They also meet twice a-week, carry into effect the resolutions of the council, and have the servants of the hospitals under their immediate inspection. Two of them always attend the meetings of the general council, where they are permitted to suggest whatever appears to them conducive to the welfare of the hospitals under their charge; for they have also divided the hospitals among themselves.

Each hospital has its own superintendant, who directs its economy, and sees that the patients are properly attended to. Without the permission of the executive committee, the superintendants are not allowed to sleep out of the hospital, nor even to be absent in the daytime, without leaving a proper person to act for them, for whom they are responsible.

All the hospitals of Paris are managed according to general principles; a system approved of by Dr Frank, because it is neither so expensive as a number of small independent hospitals, nor so prejudicial to the sick as very large ones. At first the hospitals were supplied by contract; but the council have been convinced that it is better to put each under special management, which has already been done with most of them.

The revenue of the hospitals, we are sorry to find, is not sufficient for their expenditure. " Formerly, " say the council, in one of their late reports, " we could reckon upon charity, but this source of our revenue is now almost dried up. " The medicines are distributed from a general *depôt*; and every physician can prescribe what he chuses, without regard to its expence, and even without conforming to any particular pharmacopœia.

After describing regulations with regard to the diet, attendance, and admission of the patients, Dr Frank notices each hospital particularly. The structure of the Hotel Dieu is so bad, that, without rebuilding it, it does not admit of improvement. It contains, at present, about fifteen hundred patients. Formerly, they amounted to about 4000; and still there are always 2000 beds in readiness. On the comparative mortality of this hospital at different periods, Dr Frank entertains some interesting, though rather paradoxical, opinions.

" It will appear remarkable, that the mortality in the Hotel Dieu has increased since its management has been improved, and that it continues to increase with progressive improvements. In the year ix, about one died in seven; in x, one in six; and in the first six months of xi, nearly one in four. It may be observed, that, in the sequel, the same remark will be found applicable to the hospitals of London; for there, also, in the best, the mortality is greatest. This fact has been long known.

The celebrated Italian physician Burserius boldly asserts, that he considers that hospital the best where the mortality is greatest. The reason is obvious. The better an hospital is managed, the more care is taken to admit only such patients as really need its assistance, and are therefore afflicted with dangerous diseases: Hence the proportion of deaths to recoveries must be greater."

Notwithstanding these reasons, Dr Frank candidly admits, that the mortality during the last six months was enormous; and indeed it must be apparent to every one, that his general principle, although it may be true with regard to the selection of patients, is absolutely false with regard to the mode of treatment. Let us take, for example, his own account of the comparative mortality, at different periods, in the British Lying-in-Hospital:

| | Mothers. | Children. |
|---|---|---|
| 1749 —— 1758, one in | $42\frac{16}{78}$ | $15\frac{108}{210}$ |
| 1759 —— 1768, one in | $50\frac{73}{94}$ | $20\frac{46}{139}$ |
| 1769 —— 1778, one in | $53\frac{19}{106}$ | $42\frac{74}{134}$ |
| 1779 —— 1788, one in | $60\frac{53}{91}$ | $44\frac{83}{123}$ |
| 1789 —— 1798, one in | $288\frac{1}{21}$ | $77\frac{38}{79}$ |
| 1799 and 1800, one in | 938 | $118\frac{7}{8}$ |

In this instance, the decrease of mortality is in direct proportion to the good management of the institution.

The physicians in the Hotel Dieu have not particular departments permanently allotted to them, but change every six months, a practice which Dr Frank properly condemns, although it may have some advantages in chronic diseases. He concludes his account of this immense hospital, as indeed he does that of all the others, with saying something of the character of each of its medical officers. In general, his pictures are favourable; but of their truth we are unable to judge.

The following anecdote of Bonaparte is more to his credit than some others reported of him. In an audience which he gave, when First Consul, to the constituted authorities of Paris, he reproached the prefect of the department of the Seine with the bad state of this hospital, and added, that he at least expected that it should be no worse than under the old government. Professor Pictet overhearing this, took the liberty of telling the First Consul that he suspected he was misinformed, for, a few days before, with Dr Frank of Vienna, he had examined it from the cellar to the garret, and had found every thing in an infinitely better state, than, according to description at least, it had been under the old government. Upon which Bonaparte turned round, and said to the prefect, *En ce cas-là, je fais amende honorable.*

When describing the Foundling Hospital, he fully confirms our bad opinion of these institutions. "Of the state of the children out of the house," says he, "I cannot judge; that of those kept in it, notwithstanding a tolerable degree of cleanliness prevailed everywhere, is dreadful. The accommodations are infinitely too small for their number. Hence the poor creatures were laid on tables, stools, window-soles; and often nine on one matrass. There was a deficiency of every thing besides, at least the nurses complained of a want of firewood and nourishment. It is easy to see, that, in such circumstances, many diseases must arise, and the mortality must be very great."

In this hospital he had also an opportunity of observing a disease peculiar to infants, and rather uncommon. It is supposed to consist chiefly in an induration of the cellular substance. Some years ago it also prevailed in the Foundling Hospital of Milan, and was well described by Moscati. It begins with redness of the face, which diffuses itself over the whole body. The extremities then become stiff; and this symptom also affects the trunk, and even the face, so that the children become as hard as a piece of wood. This state lasts for fifteen or twenty days, and commonly ends in death. Cold seems to have some share in its production; and it is almost peculiar to winter. From the 15 cases which Dr Frank saw in this hospital, he is inclined to think that it has a great analogy with tetanus. It is curious that we should have seen, in the Foundling Hospital at Vienna, when Dr Frank was professor there, this very disease, which first seems to have attracted his notice in Paris.

The remarks on the lunatic hospitals, the institutions for the blind, the deaf and dumb, and the military hospitals, &c. are extremely interesting, as well as his anecdotes of the Parisian philosophers.

From Paris Dr Frank proceeds to London; and, from the introductory remarks to his observations on its charitable and public institutions, the impression they seem to have made upon him cannot but be gratifying to all who delight in hearing the praises of their country.

"Only a country which has reached the highest summit of civilization—only a country, which, by its commerce, has rendered the rest of the world tributary to it—only a country, of which the riches are, for the most part, in the hands of individuals—only a country, whose inhabitants still possess a national character, and all the virtues which it generates—only such a country—only Britain, can perform, with regard to hospitals and charitable institutions, what, though with feeble tints, I am now going to delineate."

The plan of the dispensaries, in general, gave him much satisfaction, as well as the general management of the hospitals. And he occasionally notices the opinions and practices of individual practitioners, which appear to him new or interesting. In mentioning the diet of one of the chief hospitals of London, he condemns, and justly, we think, the practice of giving those patients who do not chuse the diet of the hospital, 6d. a day in lieu thereof; because it gives rise to much irregularity and imposition; because it is more than the medium expence of patients; and, lastly, because it is very probable some patients do not allow themselves sufficient nourishment, in order to save a little money.

Dr Frank seems to have paid particular attention to the different hospitals for lunatics; and draws a strong contrast between the management of these unfortunate people in this country and his own. At an early period, he promises us a work containing his ideas of what a perfect lunatic asylum ought to be.

With respect to military hospitals, Dr Frank is of opinion, after considering them in every point of view, that Britain is behind the other nations of Europe.

> " It is certain," says he, " that no universal system has been introduced. Each regiment has its own medical constitution, framed according to the opinion of its colonel. Moreover, in all Britain, there is not a single institution where physicians and surgeons are educated for military service. Not that I am of opinion that each state ought to have for this purpose a particular school, appropriated exclusively to this purpose, as in Austria; but I think that our students, who are disposed to devote themselves to the medical duties of the army, ought to have every possible encouragement. And I cannot omit this opportunity of quoting the military medical arrangements of Prussia as a model."

In particular, he condemns that regulation which requires physicians of the army to have a degree from one of the English universities, unless he be a licentiate of the College of Physicians in London; a regulation which, he says, might seem good, if it were not known, that, in these universities, there is almost no opportunity of studying medicine, that to enjoy the little opportunity which does exist, so great an expence of time and money is required, as to exclude all who have not ample funds; and of these, it never can be expected that a sufficient number will be found, to execute the dangerous, unpleasant, and unprofitable duties of military service. The artillery hospital at Woolwich, however, is described with much approbation.

Dr Frank gives us reason to expect, from Dr Cheston of Gloucester, an important work on the diseases of the ovaria; and, in consequence of his opinion, that the ovaria are affected with turgidity or plethora, during the menstrual colics, on his return to Wilna, Dr F. was induced to treat them according to the antiphlogistic plan, and with much greater success than had formerly attended the exhibition of stimuli.

The disputes at Newcastle, concerning the institution of fever wards, have drawn from our traveller several curious facts from his own experience. He asserts, that he has never seen a single instance where contagion was communicated from one ward to another. In the hospital at Vienna are two wards, directly opposite to each other, at the distance of only six feet. It was formerly the custom to admit patients in all complaints into either promiscuously: Dr Frank, having observed the bad consequences of this arrangement, and the propagation of contagion by it, appropriated the one to febrile diseases, and the other to chronic and external complaints. Since that time, there has been only one instance of an individual in the chronic ward being affected with fever; and on investigation it was found, that it was occasioned by his visiting a friend in the fever ward.

Dr Frank also controverts an opinion of Dr Blane, "That where sufficient attention is paid to cleanliness and ventilation, patients affected with contagious fever may be approached without danger." The wards of Vienna were as clean and well ventilated as it was possible to desire, and yet infection could not be prevented, although the beds were three feet from each other. In the hospital at Hamburgh, above a thousand patients lie promiscuously, in low filthy apartments. The air, which is probably renewed but a few times in the course of a year, is so moist and unsavoury, that it is scarcely possible to breathe, and yet, in such a situation, there is said to be no hospital-fever. Nor will uncleanliness and want of ventilation alone generate pestilential fevers.

"Come to Poland," says he, "and observe how the poor Jews live there. Adults, children, domestic animals, and filth of every kind, are crowded into confined rooms, in which the air is not renewed the whole year through, except during the opening and shutting of the door, and yet these people live many years, without being visited by epidemic fever. It is true, that, when it is once introduced, its devastation is dreadful. Want of cleanliness and ventilation aggravate the effects of contagion; but do not necessarily generate it."

With Edinburgh, and its inhabitants, Dr Frank seems to have been uncommonly well pleased. In describing the manner in which the clinical lectures are conducted, where the physician takes the whole management of the patients, and only dictates to the students daily reports at their bedsides, reserving his observations, to be delivered as lectures in the University, he compares it, but with his usual candour, with the mode followed at Pavia, Vienna, &c. In these, one or more patients are intrusted to each young physician, under the inspection of the professor. The young physician is thus instructed in the difficult art of observation: He is taught to examine the sick properly, and to draw up an account of their diseases: He is accustomed to prescription; and, finally, has an opportunity of shewing his talents and acquirements to his teacher. It is obvious, that patients cannot be intrusted to all the students, but only to those who have attended the clinical wards for one year at least as a spectator. On the other hand, Dr Frank was pleased with the Edinburgh method, because it put all the students in possession of the histories of the patients, and afforded them an opportunity of adding observations. The same thing, to be sure, may be done in clinical wards conducted on the other plan, and is perhaps done by some of the most industrious students; but in Edinburgh, each of them is, as it were, forced to keep a case-book of his own. The time so occupied, Dr Frank thinks well bestowed, because it is better to consider a few cases minutely and thoroughly, than to take a superficial view of a greater number.

" It may become a question, whether it is better to give the whole clinical instruction at the bedside of the patients, or to postpone the remarks to particular lectures? In my opinion, both methods have their advantages and disadvantages. Instruction at the bedside unquestionably makes a deeper impression on the pupil; and the presence of the patient suggests many ideas to the teacher, which are lost if he does not immediately communicate them. On the contrary, nothing is more oppressive and fatiguing for the patient, and more inconvenient, and often dangerous, for the spectators, than remaining long at the bedside, especially if they be numerous. If we also take into account, that commonly the advantages of direct clinical instruction are enjoyed only by those who are close at the bedsides; while those at a distance, can hear or see little, or get tired by standing long—are not unfrequently disturbed or incommoded by troublesome neighbours, or talk amongst themselves, it follows, that, in chusing between two evils, lecturing in a class-room is preferable. However, I think that a middle way might be taken, by explaining, in a few words, at the bedside of the patient, whatever has an immediate reference to the symptoms, or belongs to the art of observation; and reserving every thing else, such as all explanations, which may be deduced not immediately from the presence of the sick, to particular lectures."

To some cases of sibbens, which he met with in this hospital, we are indebted for the following brief notice of the appearance of a similar disease in Hungary and Dalmatia, which, we are led to hope, will be fully described by our author's celebrated father. The theory, we may also observe, corresponds with that published here in 1805, in Dr M'Leod's excellent inaugural dissertation, *De Syphilitide Insontium.*[*]

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[*] Quando ad syphilitidis symptomata, ab antiquioribus scriptis tradita, retrospicimus, miram convenientiam, inter ea, et syphilitidis insontium *(sibbens)* symptomata, uti nunc diesum sese ostendunt, non possumus quin observemus.—Morborum amborum, mirabilis hæc convenientia evidentius apparebit, si utriusque symptomata, modus contagionis, &c. simul conferantur.

"In 1800 a disease appeared in Dalmatia, which had the characters of Syphilis, but was rather considered as a kind of *Lepra*, as it was communicated, not only by sexual congress, but also by every kind of intimate connexion. Several thousand persons were already infected, when Dr Cambieri, district-physician at Fiume, pronounced the disease, which was called by the natives *Scherlievo*, a venereal affection, and the same with the *Sibbens* of Scotland. His official communication on the subject, was transmitted by the court to my father, who perfectly coincided with Dr Cambieri in opinion. In consequence of which, the malady, when present, was not only treated with corrosive sublimate, but also its further propagation so completely checked, by the erection of hospitals, and the adoption of other regulations, that in the course of three years it was almost exterminated. On this occasion, Dr Cambieri suggested the opinion, that the *Sibbens* or *Scherlievo* is the original form of the venereal disease, as it firſt appeared in Europe. For it is well known that it existed, long before it was supposed that it communicated itself by sexual intercourse. Even the rapidity of its diffusion over all Europe, renders it probable that this was not the only way by which Syphilis was then propagated."

From Edinburgh, Dr Frank returned by Glasgow, Liverpool, Manchester, Birmingham, Bristol, Bath, and Portsmouth, to London; and has allowed nothing in any of these places, connected with the object of his travels, to pass unnoticed. Upon the whole, we have received much satisfaction from the perusal of these volumes; and although, with regard to the customs and institutions of this empire, at least, much information is not to be expected in the descriptions of a foreigner, however attentively he may study them, still, the opinions entertained of them by so intelligent a traveller are Dr Frank, is interesting; and he frequently takes occasion to introduce instructive digressions.

## II.

*Observations on Morbid Poisons, Chronic and Acute.* By Joseph Adams, M. D. F. L. S. Physician to the Small-pox and Inoculation Hospitals. Second Edition. Illustrated with coloured Engravings; and further Commentaries on the Doctrines of Mr Hunter. 4to. London. 1807.

Twelve years ago, Dr Adams published the first edition of this work, which was suggested by a desire of explaining some of Mr John Hunter's opinions, with a view to refute some of his opponents. The author there pointed out, with considerable acuteness, the absurdities and misconceptions which several men had fallen into, when they wrote upon subjects which they did not understand; and he likewise displayed great ingenuity, in detecting the common errors so current in the language and reasoning employed in physiological inquiries. How far those hints have been attended to, what are the advantages derived from our being made acquainted with the past sins of medical writers, a slight acquaintance with the books that have issued from the press within these few years, and a strict attention to some of the expressions used by the author himself, will best enable our readers to judge. Although some of the contents of this volume consist of republications, yet these are extended by additional and important matter; and the space formerly allotted to a discussion on cancer, and those well-deserved criticisms on the illustrious Jesse Foot and others, is now filled up with original and interesting essays. We shall endeavour to give an account of the principal subjects treated of, premising some general remarks, and offering such desultory observations as occurred in the perusal of this work; for any apparent want of connexion, our author's example must be taken as our precedent and apology.

The book, upon the whole, is excellent; it displays some of those minutiæ in making observations which characterized that great master, who is so justly admired by all, though venerated, perhaps, with too profound submission by some of his disciples. Dr Adams is one of the most distinguished of Mr Hunter's followers; and his zeal does honour to the school and the teacher that inspired it. True to his task, as an impartial recorder of miscellaneous facts and opinions, Dr Adams enters in some 'preliminary remarks' upon the niceties and errors of medical language. He defends the terms introduced by Mr Hunter; and attempts to define and to explain some peculiar expressions found in the writings of that memorable philosopher. The reader, however, on opening the book, is struck with a logical inaccuracy, in which an effect is taken for a cause; then follows the history of *Brindley*, the famous engineer, to support Mr Hunter's observation, 'that no person has a correct idea in his own mind, unless he can communicate his meaning to another.' Now it appears to us, that nothing is more common, than to find a person may know a thing perfectly well, and yet not be able to tell another why or how he comes to know it. The power of communicating an idea is no necessary consequence of its correctness; nor is the converse of the proposition better founded. Words are very inadequate to describe visible objects: there are not words enough in any language for the minute differences in many things which are obvious and perceptible to the skilful and experienced observer. What a variety of different hues come under the denomination of blue, green, and brown! In order to make your idea intelligible, you must produce a pattern, or some familiar object of comparison. What minute shades of difference between an old original painting and a good copy; yet a connoisseur can discover the distinction immediately, without being able to give an intelligible reason to any one unacquainted with pictures! The facility of communicating knowledge to others, depends upon their being in some degree acquainted with the subject to which the idea refers. Mr Hunter had to contend with relative ignorance; his conclusions, (whether true or false is immaterial to the present question) are, for the most part, the result of a large collection of observations that he has made, not only upon minute circumstances in human bodies, both in health and disease, but likewise upon such changes and differences in those minutiæ, as no language can express, so that when he has peculiar ideas on any given subject, arising from the observations he has made, it is sometimes impossible to communicate the strict meaning of the one without the other, unless he communicate that series of observations by which his ideas were suggested. And it is to be regretted, he has not, in some instances, given the facts and observations themselves, which, being founded in truth, might have led to more accurate conclusions, and to more distinct expressions, than some scattered up and down his valuable writings. The faculty of nice discrimination is not so much the result of natural genius and sagacity, as it is derived from practice and experience. Let any man who has cultivated his talent of observing ever so much, in an hospital or a town, go into the country, and look on a flock of sheep, examine them one by one, and repeat his observations every day, for two or three months, or as long as his patience will hold out, and he will find, at last, that he is far from knowing them all asunder: whilst the clown who keeps them, shall not only know every one of them readily, at some distance, but think the difference between them is so considerable, as to wonder at the stupidity of those who cannot find it out at first view. Yet he cannot communicate his meaning to another, any more than an experienced physician can describe some morbid appearances, although they are obvious enough, but too fleeting, too minute, to be embodied in any verbal description.

Mr Hunter's speculations upon the *vitality of the blood*, important as many of them are, still remain doubtful. He has opened a wide field for investigation; and the extent of analogy between the coagulation of the blood and the contraction of the muscular fibre, still remains unknown. It is curious to remark, among different theorists, the disposition to extend the influence of one particular circumstance over all the phenomena of life, after having devoted their time to experimental inquiries into the relations of some chemical agents, or after investigating one particular function. *Haller* substituted his *vis insita* for the independent living principle of his predecessors. *Hunter* placed the seat of vitality in the blood. *Goodwyn* considered the heart as the great source of all life. *Currie* would make life to consist in the capacity by which an animal supports its proper heat, under the various degrees of temperature to which it is exposed; and *John Brown*, wanting continually fresh stimuli for himself and his doctrine, terms *life a forced state*, and calls upon opium and brandy to support it. These instances might easily be multiplied, were they not sufficient to show, since these hypotheses do not coincide, they cannot all be true, nay, that all of them probably are equally at a distance from the truth. And since physiologists have wasted so much time in framing new words for explanations, a strong inducement is held out for viewing the study of organic bodies, not as an object of inspiration, but as the work of diligent and patient analytical investigation, with the same instruments that have been so successfully employed in unravelling the mysteries of inorganic nature.

Dr Adams, says, "the opinions of this great man, (Mr Hunter) are insensibly gaining ground; with his opinions, his language necessarily makes its way." We wish most sincerely, his habits of experimental inquiry were making their way too, for as to his language, that need not be taught or attended to so much, because it conveys frequent examples of hasty generalization, and may do mischief, by habituating the minds of students to mistake ingenious terms for real knowledge. The following is an instance of what we allude to: Mr Hunter discovered that the coats of the stomach itself were destroyed by the gastric juice, under peculiar circumstances; he observed this phenomenon in two men, who died in consequence of some violence done to the body, both of whom were previously in good health, and had eaten a hearty meal. Experiments were made on animals in high health, by Mr Hunter and Spallanzani; but the decomposition of the coats of the stomach could only be detected in fishes. This phenomenon is attributed by Mr Hunter to the *living principle;* the stomach is supposed to be able to resist the action of chemical acids, whilst it possesses the principle of vitality, which, after death, act upon it like ordinary matter, and destroy its texture. Dr Adams relates some experiments made by himself, upon dogs and rabbits, which were killed suddenly, for the purpose of showing

ing that the stomach is decomposed by the gastric juice. Admitting the fact to be well established, the inference drawn by those who have ascertained it, seems far from being fair or satisfactory. The coats of the stomach are not always eroded; indeed that change is only observed under very peculiar circumstances. But if such an appearance could be attributed to the absence of the vital principle, why is it not always found? It is in vain to attempt any hypothetical distinction between *expiration* and *death*. The truth is, that the living and the dead body are not in precisely similar circumstances, therefore, changes will take place, totally different during life and after death. The stomach cannot resist the chemical action of caustic alkalies or strong acids, any more in one case than in the other. It is absurd to say the vital principle can interrupt chemical action, because a change in the circumstances will produce a corresponding change in the result. In the living body, all the particles of the fluids are in motion, and continually changing their relative situation; the blood is perpetually receiving fresh supplies from the aliment, and from the atmosphere; the temperature is constantly varying and modifying the secretions: Hence the affinities are influenced to an extent which we cannot estimate; we only know by experience, that the gastric fluid, which decomposes animal and vegetable substances, during the continuance of the vital functions, will, under certain circumstances, combine with the membranes that surround it, and produce an effect upon them like what it seems destined for in its natural state. After glancing thus generally, at the spirit and tendency of the Introductory 'Remarks,' we hasten to the more important part of our task, to give an abstract of the contents of this interesting work.

The terror of poisons, which prevailed among the ancients, has continued to alarm people in modern times, concerning contagion. The word seems to have been changed, without getting rid of the apprehension, though this is happily diminished by the increase of natural knowledge, and by the means adopted for arresting the progress of any contagious malady. A proper distinction is made by Dr Adams, between the terms, *endemic*, *epidemic*, *infectious*, and *contagious*. Leprosy, goitre, agues, and remittent fevers of warm climates, are endemic; autumnal dysentery, and the influenza, are epidemic; the itch, venereal disease, the yaws, small-pox, measles, &c. are contagious; the hospital, prison, or ship fever, camp dysentery, and some peculiarly malignant ulcers, are infectious. The term *morbid poisons*, is peculiar, and seems to have been taken from Mr Hunter, who, it is well known, used to divide animal poisons into the natural and

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the diseased. The first are those which form a part of an animal when in health, and, though deleterious to another, do not communicate a power of affecting others. Of this kind is the poison of the scorpion, the adder, and other venomous animals. The morbid poisons, on the contrary, never exist but under disease, and have a power of exciting a similar disease, by the secretion of matter which will have the same properties. Dr Adams seems disposed to lay great stress upon the three states of the constitution, which his distinguished master observed were necessary for the operation of morbid animal poisons. These states are denominated, *susceptibility*, *disposition*, and *action*; as far as they serve to assist the memory, which delights in arrangement and order, such terms may be useful; but to call the succeeding changes, in any given series of events, by different names, savours more of scholastic than practical philosophy. In the course of this chapter, Dr Adams takes notice of the various points of analogy and difference between small-pox and cow-pox. These two diseases are now the subject of experiment and observation, under the judicious direction of Dr A., at the Small-Pox and Inoculation Hospitals;—he gives the following summary of the present collective experience upon this interesting point:

"Each, when inserted, requires about the same time to produce its local effects.

"A subject that has regularly passed through either, is insensible to the future constitutional effects of the variolous poisons.

"Each will produce secondary eruptions, having the same property of infecting as the primary; but secondary eruptions appear more than ninety-nine times in a hundred, in small-pox, and not once in three hundred, if the skin is otherwise entire, in the cow-pox.

"In the small-pox, secondary pustules appear whilst the primary is advancing, and mature two or three days after them. In the cow-pox, when secondary vesicles appear, it is not till the primary has begun to scab.

"The small-pox may infect by the effluvia; the cow-pox can only be communicated by the secretion from the local infection.

"When these poisons are inserted at the same time, in the same part of the same subject, by mixing the secretion of each, only one will produce its effect.

"When inserted separately, in different parts of the same subject, each will produce its local effect, and at the same time.

"If cow-pox is inserted at the same time that the subject is exposed to a variolated atmosphere, the former will supersede the effects of the latter. If inserted four days later, the effect will be less certain; but, as far as can be ascertained, not more uncertain than from the variolous insertion," p. 15.

From the registers of some cases, it appears, that the diseases may be confounded, that is, the laws peculiar to one, may occasionally influence the other: Hence the fair inference may be drawn, that the cow-pox and the small-pox are varieties of the same morbid poison. Some varieties of small-pox have been noticed by Sydenham and other practical writers; and a remarkable mild sort has been propagated both by contagion and inoculation. Cow-pox appears to be a peculiar and strongly marked kind of small-pox, by its not interrupting, and not being interrupted, by the progress of this disease, and by both retaining their respective laws and characters at the same time, whether inoculated in different subjects, or in the same; or if each has been inoculated in the same subject at different times, the consequence is similar to the inoculation of either one at different times. This is contrary to the law of all morbid poisons, which are different in their nature, because these are uniformly interrupted in their course, as repeatedly shewn in experiments tried with variola and varicella, with small-pox and measles, and also with cow-pox and each of the others. It was remarked by Dr Woodville, that if a person is inoculated with small-pox to-day, and three or four days after is reinoculated with the same morbid poison, though the last insertion may remain a smaller pustule than the first, yet both inoculations will arrive at their height at the same time. The same takes place in cow-pox; and also, if a person is inoculated to-day with cow-pox, and three or four days after with small-pox, or, to-day with small-pox, and three or four days after with cow-pox, the two insertions, though the last may remain smaller than the first, will maturate and scab at the same time, p. 399.

After having gone through a general discussion of the laws peculiar to morbid poisons, in which the doctrines of Mr Hunter are ingeniously illustrated, by some good reasoning of the author's own, we come to Chapter VII., which is entitled, "*Of the Venereal Disease.*" In the beginning of this chapter, we find the old notion brought forward again, concerning the identity of the matter of gonorrhœa and chancre. Mr Hunter, indeed, assures us, that he has seen all the symptoms of lues venerea originating from gonorrhœa only; that he had even produced venereal chancres by inoculating the matter of gonorrhœa. But the testimony of other experimentalists do not concur with this opinion. Experiment can be set against experiment, and case against case; and although some argument can be adduced still in favour of this opinion, practice is almost universally against it, and no one thinks of curing gonorrhœa by giving mercury, any more than of curing secondary symptoms of lues without it. Syphilis has been known in Europe upwards of 300 years, and yet, at this very hour, we are disputing about its characteristic marks. The rules laid down by Mr Hunter, the diagnostic signs and predictions relating to the venereal disease, as they are the result of observation and experience, so they remain the best and surest guides to all who can make use of them. Yet there are several diseases resembling syphilis, which never seem to have come under Mr Hunter's observation; and the frequency of these has been increasing of late years, as shewn by Mr Abernethy's valuable publication. Who knows but the formidable disease itself may undergo some great changes; and, in some happier age, it may be known only by historical evidence. In a former article, we took an opportunity of pointing out the necessity and importance of practitioners attending to cases of this doubtful nature; and it is not unworthy of remembrance, in examining such instances, that the venereal disease has already undergone some changes, since its first appearance in this quarter of the world, and may perhaps be liable to further modifications. If any additional proofs were wanted of the variety of diseases which attack the genital organs, some instructive histories are detailed in Dr Adams' book. It is rather singular, however, that a practitioner so enlightened, as this learned person appears to be, should recommend a method of treatment in gonorrhœa, which is directly the reverse of recent experience, and in opposition to the commonly received notions with regard to the nature of that complaint. Injections are deemed adviseable, for no other reason, apparently, than because Mr Hunter thought them useful; and it is said to be always adviseable, to rub mercurial ointment into the thigh, when any swelling in the groin accompanies a discharge from the urethra. These two practical directions are surely not such as are current in the surgical schools in the metropolis. If Mr Hunter had lived to our time, he probably would have discovered the bad effects of an indiscriminate use of injections; and his patients would have protested against an unnecessary employment of mercurial friction, when it was urged only to satisfy some doubts in the mind of the undecided practitioner.

The account which Dr Adams gives of chancres is far more accurate and just; the characters peculiar to the morbid action and diseased structure which constitute a chancre, are pointed out to be a progressively increasing sore, with a hardened base and callous edge, which will only yield to the exhibition of mercury. To subdue the venereal action, the constitution must be reduced; it must feel the irritation produced by the mercury; therefore, the giving bark to support the system during the mercurial course, is often worse than useless. Dr Adams says he has seen the disease protracted by it, and the appearance of a chancre and bubo seen to mend as soon as the bark was omitted. When the mercurial irritation is too great, tonics are required to prevent the system from being too much exhausted by such powerful wasters of the vital powers as the disease and the remedy. During the administration of mercury, a peculiar phagedæna is apt to attack the crude surfaces of fresh divided parts; hence our author suggests the propriety of using caustic, instead of the knife, for opening buboes.

The XVth Chapter contains a good summary of the present state of our knowledge of that disease called *Sivvens*. Dr Adams, with that laudable zeal which ever characterizes genius, and an ardent love of truth, went a journey into Dumfriesshire, Ayrshire, and other counties in the south-west parts of Scotland. He there had opportunities of seeing the disease; and, from comparing what is written, with what came under his own personal observation, he is disposed to consider sivvens as different from the venereal disease, though approaching nearer to it than any other morbid poison with which we are acquainted. He makes the following remarks on this subject:

"The venereal gonorrhœa differs from the throat inflamed by sivvens, in the appearance of the discharge, and in the greater disposition sivvens shows to excite the effusion of coagulated lymph. The ulceration differs; the venereal being attended with callous edge and base, and sivvens consisting only of the clean phagedænic ulcer. Secondary local symptoms differ; the venereal retaining longer its copper appearance, and afterwards becoming more elevated, retaining more of the colour of the skin, and the scab, when formed, being more scaly. In sivvens, the *appearance* is very rarely pustular, though I never could detect pus under the cuticle. I should, therefore, conceive the pus still less in quantity than in syphilis. It is probably thinner, that is, more truly lymphatic, as it hardens into an irregular dark brown crusty or stony scab. There is nearly the same difference between this and the venereal scab, as between the cow-pox and small-pox scabs. Lastly, it is now universally admitted, that sivvens never attacks the bones, but by spreading from the soft parts; and that it yields earlier to mercury than syphilis." p. 187.

Sivvens is sometimes superseded by another train of actions in the system, besides those produced by mercury; women have been relieved from this complaint by gestation or parturition; and we learn, from an interesting communication by Mr Halliday, that so slight a disease as vaccination was sufficient to procure a suspension, for six weeks, of a disorder, which, for 12 months before, had kept possession of the skin and the constitution. Sivvens seems to have been known before the appearance of syphilis in Europe, and there is at least some probability, that it may be referred to among the *morbi in cole* mentioned by Celsus; that it may have been noticed by different writers among the

diseases

diseases of the genital organs, but since the introduction of the venereal disease, it may have been confounded with it; and lastly, it may be among those morbid poisons which are sometimes excited by applying to one person the secretions of another apparently healthy, or not labouring under a similar disease. These suggestions of our author remain to be confirmed, and rectified by those practitioners who have constant opportunities of observing the disease. A general opinion prevails, that it is now but little known. This is true of the larger towns in Scotland; but it is very much, Dr Adams thinks, in consequence of the village practitioners being better educated, and their number multiplying with the increasing wealth of the country, it is no longer necessary to seek relief at a great distance.

The next chapter treats of *Yaws;* and the author has transcribed a well detailed case, which came under his care, that was honoured as one of the prize essays, by the London Medical Society, and published in the 6th volume of their transactions. This disease, though extremely troublesome for a time, seems to owe its more lasting terrors to the too early use of mercury. For a very accurate history of the disease, collected from the best writers, and from the author's personal observation, we refer our readers to the original essay.

We pass over the remarks on *anomalous morbid poisons*, and the criticisms upon the controversy concerning the cure of syphilis by acids, in which the testimony of several distinguished authors is candidly discussed, because we are desirous of pointing out the excellencies of the two following chapters. The first, upon *Leprosy*, is an admirable one; it abounds with curious and important observations. The author very properly distinguishes this disease, the Arabian or Syrian leprosy, or elephantiasis of the ancients, from the Lepra Græcorum, and from Elephantiasis, the elephantiasis of the moderns, which is also called the Barbadoes leg. His situation at Madeira, afforded him an opportunity of examining the unfortunate objects in the lazaretto, near Funchall. There is a remarkable connexion between leprosy, and the state of the genital organs, and the signs of puberty. When the disease attacks a male subject, before the age of puberty, he never acquires that state; and those who are affected later in life, gradually lose the power of procreation, as far as can be judged by the changes which take place in their organs. Hair does not grow on the chin or pubes; and the voice is affected in a peculiar way. The proofs of defective organization in the women are scarcely less striking, as far as those organs can be examined. Among the unequivocal marks of this disease, tubercles about the face, particularly on the external ear, alæ nasi, eyebrows, and forehead, may be particularly mentioned. These tubercles are minutely described by our author; and some plates are given at the end of the volume, which are well calculated to illustrate the physiognomy of this loathsome disorder, happily known in these colder regions only by description.

The second essay, to which we allude with so much pleasure, contains an account of the *Acarus Siro (exulcerans of Linnæus)*, by some considered as the itch insect. Considerable doubts have always existed, among the best informed men, concerning the vulgar opinion, that the itch is caused by a particular insect. These are by no means removed, with regard to the cause of the common itch in this country; but there are two species of the disorder, and Dr Adams has satisfactorily proved, in Madeira, at least, that one kind of itch is occasioned by small insects, which is quite distinct from *psora*. At this place, the name given to it is *ouçāo*, or *ouçam*, the last syllable being pronounced like the French nasal terminations. After noticing the account given of these acari by Dr Bonomo, who was the first that described them, in a letter to Dr Mead, from Rome, Dr Adams proceeds to relate the experiments made by his friend Mr Banger, and himself, who were bold enough to establish a colony of these animalcules on their own bodies. The history and progress of them can best be learned from the author's own words :—

"In July 1801, I procured two ouçöes from the young woman, whose aunt consulted me for the cure of her niece. The old woman, without spectacles, which she always used when working with her needle, but not without much diligence and nicety, extracted them from the girl by means of a pin, and placed them between the fingers of my left hand, the skin of which, and I believe of my whole body, was entire. They remained apparently without any disposition to move, as long as I watched them; but on examination two hours after, nothing was to be discovered but a small desquamation of the cuticle.

"For more than three weeks little or no inconvenience was felt. From that time began frequent itching in different parts of my body and arms, but no eruption could be discovered. In less than a fortnight afterwards, my arms and belly were covered with a general efflorescence, but few vesicles appeared. I applied to my old woman, who readily drew two ouçöes from my arm, but not from the vesicles; indeed, on this, and on all other occasions, I could not help remarking, that, though I could not discover what the marks were by which she was directed, yet she constantly passed over the vesicles, without suspecting them to be the nidus of the insect. At length I perceived it was a small slightly discoloured elevation of the cuticle, which appeared as if soon likely to become vesicular, that the woman always attacked, but always with success. However, she constantly answered to our inquiries, that where the bladder was formed, the ouçāo had left the spot.

"No remedies being used, nor any alteration in diet, or my usual habits, the weather also being warmer than common, even for this season of the year, the disease continued to spread rapidly, so that by the end of August, my whole body, arms, and thighs, were covered with the efflorescence. As, however, the vesicles were few, I was willing to believe the eruption might be the prickly heat. On this subject. I applied to my old woman, who confirmed my suspicions; but there is reason to fear I was not sufficiently cautious in leaving my teacher to form her own opinion before she had discovered mine. In the mean time, my health suffered exceedingly, not only from the inconvenience produced by the itching, but about noon a quotidian fever began, with a slight shivering, and was succeeded with headach, dry heat, great thirst, loss of appetite, and considerable exacerbation of the itching. The consequent perspiration was not greater than what the season might have produced.

" So little was I prepared to expect such effects to arise from such causes, or so determined to ascertain the cause, that to allay the itching, I used an ointment of pomatum and saccharum saturni, from which some relief seemed to follow. It was, however, for a short time, and the paroxysm of fever being as regular, though much slighter than in common ague, I had recourse to the bark. If this produced relief, it was very temporary.

" By the middle of October the efflorescence was universal over my abdomen, and very general over my arms, breast, and thighs. My hands were only slightly affected, but sufficiently to be detected by the natives. The character was, indeed, here more strongly marked, for the white shining cuticular elevations were such as I should not scrupuled in England to call the itch.

" About this time one of my family became slightly infected with the eruption, but her fever was very considerable. It seemed, therefore, reasonable, to attribute all my own symptoms to ouçöes, or at least it was time to try, whether, by ridding the skin of them, the other symptoms would cease. The ointment I had invariably found successful in all other cases, was composed of a drachm of white precipitate of mercury, and an ounce of soft pomatum. The effect of this on us both was almost incredible. In three days time the itching nearly ceased, and the fever entirely. However, it was found necessary to have recourse to the ointment occasionally, for near a month afterwards: little cuticular elevations, and some vesicles, arose at different times during that period; and, when they arose, were constantly attended with symptoms of fever. From that time we felt no further occasion for any remedies.

" In the mean while, my friend Banger had begun a similar experiment on himself. He borrowed a single oucöen of me, and its multiplication soon showed itself. The first part in which he discovered either itching or eruption, were the inside of his left arm, near the axilla, and that part of the chest which comes in contact with it. This he imputed to his habit of sleeping with his right hand in that position. At first he used no means of cure but warm bathings. He next tried dry frictions of brimstone over such parts only as showed the eruption, or gave the sensation of itching, and gained some assistance from them, but was not cured without a sulphur ointment; and the efficacy of this was slower than I have usually found from the white precipitate ointment."

To those who delight in tracing the historical analysis of useful discoveries, the first part of this work on Morbid Poisons, will afford considerable pleasure and satisfaction. In the second part, which professes to treat of morbid poisons, attended with critical fever, the author is less original, and not so well versed in the subjects, which come in an unconnected manner before him. When we find him endeavouring to apply the same reasoning, to explain the phenomena in fevers, as he attempted in the diseased actions of secreting or non-secreting surfaces, the weakness of the hypothesis becomes more apparent. To talk of "*the constitution taking the alarm*" in hectic fever; and "the constitution perpetually harassed by large ulcers, will excite actions which it is unable to support," and similar expressions, as occur frequently in these concluding chapters, is renewing the doctrine of the *Vitalists*, of which Lord Bacon is quoted in the beginning of this work, to shew the unphilosophical spirit and tendency. Our limits will not permit us to go into any examination, of what seem to be the radical errors of the *spiritual* or *Stahlian* system; yet we may just notice one circumstance in Dr Adam's account of fevers, upon which he lays considerable stress, viz. "when those regular actions by which life is maintained, can be no longer preserved, a new series of actions takes place, which, from the increased heat with which it is usually attended, is called fever," p. 321. This definition seems to imply, that fever is a state of the body, directly opposed to that of health; whereas, it is only a different modification of the same state; and when the question is put, what is the proximate cause of fever? In order to answer this, we must first inquire, how do the organs act in a state of health; and then proceed to show in what the deviation from the healthy combination and structure consists.

In the mode of treating acute contagions in general, we were surprised to find our intelligent author fallen into the vulgar error concerning the practice so ably inculcated by the late Dr Currie. Speaking of the cold affusion, he says, "Dr Currie considers its principal, "if not its only use, as a means of lessening the heat excited. Dr Jackson conceives, by exciting new actions, it supersedes the former ones; and, as both observe that it cuts short the progress of the fever, the opinion of the latter physician stands well supported." p. 378. Without inquiring into the comparative merits of these two writers, we shall only observe, that it is scarcely possible to have adopted such an opinion of the difference between them. Throughout the whole of Dr Currie's most estimable work, it is constantly urged and repeated, that *the solution of fever depends chiefly on the sudden, general, and powerful impression on the sensations;* and this most important part of the superior efficacy of the cold *affusion* compared with *ablution*, has been most strangely overlooked. As to the practical uses of the affusion of cold water in acute diseases, especially in the contagious exanthemata, its effects, so far from not being ascertained, as our author hints, have been established on the most complete evidence, and it only remains to get rid of prejudices and jealousy, before the real merit of this practice will extinguish, in everlasting oblivion, the frivolous objections that are whispered against its immortal investigator.

The last chapter, on "*Prevention,*" is very good. The author points out the means for arresting the progress of infectious fevers, such as are connected with the good order of society, and which have been adopted with such happy effects, as far as relates to typhus, by that excellent establishment, the *Fever Institution* in London. Greater difficulties are to be encountered in preventing the spreading of contagious diseases, as scarlatina, measles, and small-pox; thence, the project for exterminating these contagions should first be tried with the two first of these, from which we have no means of protecting ourselves by inoculation. With a view to this desirable end, Dr Adams suggests the propriety of exposing children to scarlatina and measles in favourable seasons, when either of these diseases assumes a mild form, at any public institution in the metropolis. This hint deserves attention, for it is become a matter of great consequence to ascertain, by experience, how far the violence of scarlatina can be obviated, and what chance of success any plan can hold out, for disarming it of its terrors, or superseding it altogether.

Some judicious remarks on variolous and vaccine inoculation terminate this work; which must be considered as far superior to the ephemeral productions of authors, who want to write themselves into the high road to riches and renown. This volume is valuable, in another point of view, because it inculcates the habit of analyzing diseases, and shows the importance of minute attention, in tracing the history and progress of every series of morbid action. It is to be hoped Dr Adams will continue his researches; he will have ample scope in the metropolis; and his present situation will furnish abundant opportunities for pursuing those interesting inquiries, which he is so eminently calculated to render beneficial to society.

## III.

*Practical Observations on the Uterine Hemorrhage, with Remarks on the Management of the Placenta.* By JOHN BURNS, Lecturer on Midwifery, and Member of the Faculty of Physicians and Surgeons in Glasgow. London, 1807. 8vo. pp. 199.

THERE is nothing, perhaps, very new or original in this little work of Mr Burns, which forms a very natural sequel to his essay on abortion, already reviewed in this Journal. Yet it is one of considerable merit and interest, on a subject of undoubted importance,—a subject which, in all its details, ought to be constantly and intimately familiar to every general practitioner. For here, there is often no time for delay or hesitation; prompt and decisive measures, such as experience and observation have already sanctioned and determined as rules of practice, may save, while a single error, whether of omission or commission, may, in the case of uterine hemorrhage, prove instantly destructive to the patient. This, then, is the peculiar merit of Mr Burns, that his discourse is truly practical, that he has kept steadily to his subject, without distracting his reader's attention by any idle speculations or foreign discussions, while, with a happy perspicuity, he explains, in a persuasive and instructive manner, the most efficient and approved practice in the different cases. Nothing, in our opinion, is more praiseworthy in a medical writer, than this, of following out a few plain and general principles in a practical discourse, to the exclusion of the too common ornaments of fine spun theories, which have no other effect than to obscure the subject. In his essay on abortion, Mr Burns has fallen into this error, by the engraftment of hypothesis on observation. Our decided preference is given to the observations now before us, because they are so little encumbered by hypothetical opinions.

Uterine hemorrhage, occurring in the advanced months of gestation, implies a rupture of vessels, and separation of a part of the membranes, or of the placenta from the uterine surface. The flooding, in quantity and duration, corresponds for the most part to the extent of separation. It is greatest and most dangerous when the placenta has been separated, in those cases, more especially, where it has been attached to the cervix uteri. The hemorrhage may be so profuse as to occasion the death of the mother before assistance can be procured; or, if the patient is saved, it is by the induction of faintness or syncope, by such a diminished force of circulation as allows formation of coagula, and temporary suppression of the bleeding; or, by the contraction of the uterus, labour comes on, and the fœtus is expelled. Having stated and commented on these general and leading principles, Mr Burns next discusses the operation of the remote causes of uterine hemorrhage, and then considers the effects of the profuse or continued loss of blood on the system. If expulsion have not taken place, the patient, by a continuance of the hemorrhage, or repetition of the paroxysms, becomes exhausted, feeble, and irritable, liable to hysterical and convulsive affections, syncope, and general derangement of all the functions, till the debility becomes so great, that no care can recruit the enfeebled system, nor excite the muscular contraction of the uterus, by which alone the mother can be saved, so that, says our author, "we may deliver the child, but the womb will not contract." In forming a prognosis, these effects of the flooding are to be kept steadily in view. In most cases of sudden and profuse hemorrhage, occurring in the advanced stage of gestation, a cure is only to be obtained by expulsion or delivery, for in such, it may be presumed, that there is a considerable separation of the placenta, and that the hemorrhage, though suppressed, will yet certainly return. But, in more moderate attacks, where a portion of the decidua, or a little of the margin only of the placenta, has been detached, the hemorrhage may sometimes be completely and permanently checked. Every repetition, however, even of a moderate hemorrhage, diminishes the hope of a successful gestation. And, in every case, the continuance or repetition of flooding, may require manual interference to insure the safety of the patient. Our opinion of danger or safety will also be formed from a consideration of the previous state of her constitution, of the actual symptoms induced by the hemorrhage, and on the quantity and velocity of the discharge.

The plan adopted by our author in the practical part of his observations, is to consider, first, the treatment of uterine hemorrhage occurring in the three last months of gestation, then the treatment of hemorrhage occurring during labour, and, successively, of flooding after delivery, and of hemorrhage after the expulsion of the placenta.

Our first practical indication, in a case of flooding, is immediately to restrain the violence of the discharge, "after which we can take such measures as the nature of the case may demand, either for preserving gestation, or for hastening the expulsion of the child." For restraining the violence of the discharge, the patient is laid in a horizontal posture, and kept in the most perfect state of quietness and rest during the subsequent treatment. If the flooding appears to have arisen from repletion, and to be kept up by over-action of the heart and vessels; blood-letting will sometimes be useful and necessary. But certainly, in by far the greater number of cases, this remedy is either inapplicable, or comes too late. Our great remedy, for moderating the force of circulation in floodings, is the application of cold. On the management of this remedy, Mr Burns furnishes some judicious observations. Where the circulation is already languid, and the heat has fallen below the natural standard, the vigorous application of cold, it is obvious, would sink the system too much. And, as our author justly observes, there are even cases where it may be necessary, from the coldness and weakness of the patient, to deviate from the general rule, and to apply warm cloths to the hands, feet, and stomach. Where these remedies have been ineffectual, or where, from the state of the patient, they are inadmissible, we have a pretty certain resource, in most cases, in the plug. Plugging the vagina with a soft handkerchief, gives us a great command over the hemorrhage. "The advantage," says Mr Burns, "is so great and speedy, that I am surprised that it ever should be neglected." The plug is especially applicable on sudden emergencies in the early attacks of hemorrhage, when the os uteri is yet firm and undilated, and manual interference unnecessary or improper. But, under other circumstances, the practitioner must be on his guard, for the hemorrhage may be only concealed by the plug, while the bleeding is going on within the relaxed and torpid uterus. If we have succeeded in restraining uterine hemorrhage, our object then is to prevent its recurrence. This also is best done by moderating circulation, and keeping down the action of the heart and arteries. Rest, light mild diet, cool and free air, are therefore to be continued. And where the pulse is sharp, throbbing, and frequent, the digitalis is much recommended by Mr Burns. The bowels are to be kept open, and every irritation removed. The effects of the preceding hemorrhage on the system are, at the same time, to be attended to. The chief of these are faintings, complete syncope, universal coldness, vomiting, and hysterical affections, the treatment of which is succinctly described by our author.

In some cases the hemorrhage may be permanently suppressed, the action of gestation continued, and the woman be happily conducted to her full time. But if the placenta have been separated to any extent, if placed over the orificium uteri, if the flooding have been profuse or repeated, the action of gestation is for the most part impaired, and a tendency to expulsion brought on. "But before the uterine contraction can be fully excited, or become effective, the woman may perish, or the uterus be so enfeebled as to render expulsion impossible." By timely delivery, then, we are to anticipate these moments of extreme danger. " We must not," to use the language of our author, " we must not witness many and repeated attacks of hemorrhage, sinking the strength, bleaching the lips and tongue, producing repeated fainting fits, and bringing life itself into extreme danger." Nor are we forcibly to open the os uteri in the commencement of flooding. But when the os uteri is already somewhat opened, if the flooding continues, and threatens the safety of the mother, we must dilate and deliver, if expulsion can no longer be trusted to the slower efforts of nature. Unless in the most extreme case, Mr Burns advises that no attempt whatever be made to force the os uteri with the finger, till there is a natural disposition to open.

" As long as the os uteri is firm and unyielding; as long as there is no tendency to open, no attempt to establish contraction, it is perfectly safe to trust to the plug, rest, and cold. Did I not know the danger of establishing positive rules, I would say, that as long as the os uteri is firm, and has no disposition to open, the patient can be in little risk, if we understand the use of the plug. We may even plug the os uteri itself, which will excite contraction. But if the patient be neglected, then, I grant, that long before a tendency to labour or contraction be induced, she may perish. I am not, however, considering what may happen in the hands of a negligent practitioner, for of this there would be no end, but what ought to be the result of diligence and care."—" It is evident, that when the uterus has a disposition to contract, and the os uteri to open, delivery must be much safer and easier, than when it is still inert, and the os uteri hard.

" We may, with confidence, trust to the plug, until these desirable effects be produced; and, in some instances, we shall find, that by the plug alone we may secure the patient: the contraction may become brisk, if we have prevented much loss of blood, and expulsion may naturally take place. Who would, in those circumstances, propose to turn the child, and deliver? Who would not prefer the operation of nature, to that of the accoucheur? To determine in any individual case, whether this shall take place, or whether delivery must be resorted to, will require the deliberation of the practitioner. If he has used the plug early and effectually, and the pains have become brisk, he has good reason to expect natural expulsion, and the labour must be conducted on the general principles of midwifery. But if the uterus have been enfeebled by loss of blood; if the pains are indefinite; if they have done little more than just to open the os uteri, and have no disposition to increase, then he is not justified in expecting that expulsion shall be naturally and safely accomplished, and he ought to deliver."

The true value of the plug will now be obvious. It is, in truth, the tourniquet of the accoucheur, with which he saves his patient from instant danger, that he may wait till circumstances shall enable him safely to use those other means which the nature of the case shall require.

The remaining observations of Mr Burns, on the treatment of hemorrhage occurring during labour, after delivery, and after the expulsion of the placenta, and his directions for the management of the placenta, are equally copious and instructive with those of which we have given this short account. They appear all deducible from the soundest principles of pathology, and agreeable, we believe, to the experience of the most enlightened practitioners.

## IV.

*Observations on the Humulus Lupulus of Linnæus; with an Account of its Use in Gout and other Diseases; with Cases and Communications.* By A. Freake, Apothecary. Second Edition. London. 8vo. pp. 77.

The medicinal qualities of the hop plant, which Mr Freake thinks he has discovered in the course of his own practice, and in the writers on materia medica, are enough to make this little publication worthy of attention, in its way. Several authors are quoted, to show that this plant has long had a place on the list of remedies, though its virtues are so numerously recorded, as to suggest some doubt whether any of them have ever been well ascertained. It is said to be bitter, stomachic, diuretic, sudorific, narcotic, lithontriptic, and anthelmintic, and these properties are not only ascribed to it in old dispensatories and miscellaneous writings, but also in the more classical work by *Linnæus* on materia medica, and by his favourite pupil *Bergius*. In the latter, we find a reference to a dissertation on its narcotic quality by *Stenzelius*, (De Anod. virtute Venen. vide *Bergius. Materia Medica*, Tom. II. p. 801. Stockholmiæ, 1778). An old and popular remedy to procure sleep, in fevers attended with delirium, and in other cases of watchfulness, is to lay a pillow stuffed with hops under the head; and there is evidence sufficient to corroborate the truth of the vulgar opinion on this subject.

"I am persuaded, (says Mr Freake), that the lupulus is eminently beneficial as an alterative and tonic; that it is a good diuretic; that it acts gently as an aperient; and, that it possesses considerable power as a sedative, having in some cases afforded relief from pain, and procured rest, when opium and other medicines had failed, or could not be continued with safety. From my own experience, I can likewise declare, that it possesses great power in *correcting acrimony*, and that, while it gently acts in opening the bowels, it is at the same time a corroborant.

I have administered the lupulus in many different forms, namely, in powder, tincture, extract, infusion, decoction, and conserve; all of which have proved useful, but none in so eminent a degree as the extract and tincture," p. 9.

The dose of the different preparations must be regulated by the age and constitution of the patient, and the nature of the complaint. As usual with all medicines of the bitter and narcotic class, it is right to begin with small doses, and increase them gradually, until some sensible effect is produced. Of the decoction and infusion, made with half an ounce of the dried flowers to one pint of water, an ounce and half may be given to an adult two or three times a day. The ordinary dose of the tincture is from one drachm to three drachms, with pills made with seven grains of the extract, twice in the day, which may be increased to treble the quantity. The method of preparing the extract is not mentioned, whether by water or spirit, which omission is of considerable importance. An ointment compounded with the hop, is said to have eased the violent pain in the last stage of cancer, when all other applications were ineffectual. With respect to its lithontriptic power, the experiments made by our author contribute nothing towards establishing that point, nor to its refutation, because, a perceptible diminution of weight is no test of any portion of an urinary calculus being dissolved in any menstruum, and the nature and composition of the stone submitted to these trials, ought previously to have been ascertained. In the observations which Mr Freake makes concerning the exhibition of this remedy, the name of *Dr De Roches* is introduced, as having related some striking confirmations of the accounts given by *Lewis* and *Chambers*, respecting the sedative power of the volatile and aromatic parts of the hop, in his ingenious and valuable thesis, "*De Humuli Lupuli Viribus Medicis,*" published at Edinburgh in 1803. Dr De Roches was induced to employ a pillow filled with hops, in a case where opium, hyosciamus, and camphor, had in vain been tried, to procure sleep. Encouraged by the happy effects of this experiment, he was led to make some farther trials, with other preparations of the same plant; and the clinical wards were liberally allowed to be the scene for prosecuting these interesting inquiries. The result was as satisfactory as could be expected from the unequal strength of the preparations, and the uncertainty of the proper doses. From some experiments made to ascertain the chemical history of the hop plant, Dr De Roches found the proximate principles of this vegetable to consist,

1. In a *resin*, which contains the bitter part of the plant, easily extracted by alcohol; but in small quantity by hot water.

2. *An essential oil*, which is the cause of the strong smell,

both of the plant, and of the tincture made from it: this is dissipated by heat, especially when combined with other substances, with which it has a very slight chemical affinity.

3. *A nauseous mucilage*, extracted by warm water, and precipitated again in flakes, on adding alcohol.

4. *An uncombined acid*, probably the gallic.

To these important inquiries, the present treatise adds nothing. The author seems to shun the very name of chemical history, for he has not once mentioned it throughout his book, though the late improvements in the examination of vegetable substances render it absolutely necessary, that every discovery of unknown medicinal properties should rest upon the solid basis of experiment and induction. And it is natural to think, that an apothecary in Tottenham Court Road, would be better employed in examining the proximate principles of vegetable substances, than in running about the town, persuading patients to take, he does not know what, and for so many months, he cannot tell why. It is easy to judge from the cases, which are detailed at some length, that the patients Mr Freake has selected, are not the most proper for becoming subjects of experiment, and the mode he has adopted, is not the best calculated for coming to any accurate conclusion. The multitude of the effects attributed to the medicine is the first objection: too many operations are expected to be seen at once, to observe any one well in particular. Another objection is, that other remedies of known efficacy have been exhibited at the same time with the hop; and, lastly, the greater number of cases are of gouty patients, who are always disposed to *will* themselves better, after talking about the extraordinary virtues of any particular medicine; and always credulous with respect to the good effects of every new remedy that they hear recommended.

Of the *communications* from physicians in the metropolis, every one of whom, the author has taken considerable pains, should have a copy of this treatise, which was first printed solely for their use, we find only *four*, two delivered by authority, and two in letters from the gentlemen themselves. Dr Maton's letter is by far the most satisfactory. He has employed the humulus lupulus, with happy effects, under the form of extract and tincture, in that painful affection which he justly terms *articular rheumatism*, which, under many circumstances, exhibits a very near alliance to gout. He did not observe it had any influence in relaxing the bowels, but the contrary; and he is disposed to believe, that the pulse is reduced in frequency, and increased in firmness, by this medicine, in a very direct manner. In one patient, the number of beats was found lessened from 96 to 60 within 24 hours, by only one drachm of the tincture, and four grains of the extract, given once in six hours; and a fulness in it was produced, similar to that which is occasioned by a large dose of opium or hemlock. This last communication, though no long one, from such an intelligent practitioner, is fairly worth all the rest of the seventy pages of the book put together.

Mr Freake has the merit of calling the attention of medical men to a medicine, whose virtues have been either overlooked or overrated. He holds out a subject that demands investigation; but, in all our inquiries of this sort, we should never forget how many accidental circumstances contribute towards an effect; how often the natural powers of the constitution accomplish a cure, while the doctor, like Belinda's Betty, " is praised for labours not his own. "

## V.

*Cicero Medicus, h. e. Selectos e M. T. Ciceronis Operibus locos, vel omnino medicos, vel facillime ad res, disciplinasque transferendos, in literarum medicarum cultorum usum congessit, indici locupletissimo instruxit et præfatus est* Adamus Michael Birkholz, Philosophiæ et Medicinæ Doctor, Facultatis Medicæ Lipsiensis Senior, &c. &c. 8vo. pp. 465. Lipsiæ, 1806.

The object of this work is sufficiently set forth in the title; and the laudable motives which gave rise to it, are explained by the author in a well written preface, addressed to medical students. He has found, by experience, in discharging the duties of a Professor in the University of Leipsic, for these last twenty years, that the candidates for academical honours are frequently at a loss in their examinations, not so much for want of knowledge of their subjects, as from their ignorance of the Latin language; and they are often unable to answer questions, because they cannot bring to their recollection the proper words. The same evil prevails in all other universities; and it must be so, more or less, whilst so many students assemble together from such various quarters, from such different ranks and situations in life; nor can it be obviated, but by diffusing a taste for classical studies, and directing the young men to study some other language besides their own. It may be fairly questioned, whether the discontinuance of delivering lectures in Latin has not been the cause of some of those evils in medical practice which have lately called forth the exertions of some individuals to reform. Should it be asked, if a classical education be necessary to constitute a good physician? Common sense would answer, certainly not. But an acquaintance with the learned languages will render any man more fit for becoming a good practitioner, because his habits of discernment and nice discrimination are cultivated, his mind is awake, and the chances are (supposing even the whole art of physic to be conjectural), that a learned man will conjecture what is right to be done, much better than an ignorant old nurse, or an impudent empiric. Experience is better than assertion; and, on referring to the biographical histories of eminent physicians, we shall find they were all distinguished for their acquirements in the walk of Grecian and Roman literature. *Professor Birkholz* has quoted a passage from Van Swieten, which gives a correct picture of the common run, the *profanum vulgus* of our profession. This sketch was taken from German scenery; but it is a tolerably good likeness of such scenes among professors of the noblest of all the arts in other places: " Qui tota die cursitando plurimos vident ægros, morbos vero paucos intelligunt. De similibus dici posset merito: oculos habent, et non vident; aures habent, et non audiunt (prudentiorum consilia), manus tantum habent, ut palpent: pedes ut ambulent, sicque annosa etiam praxi fiunt magis magisque stupidi et hebetes, quos tamen quandoque

——————*Summa ad vestigia rerum*
*Extollit, quoties voluit fortuna jocari.*"

The stale apology for medical men being privileged to write what is called *dog-latin*, is a poor excuse for making doctors *per saltum*, who may be called upon to write prescriptions for other shops besides their own partnership concerns, and thus expose themselves to the ridicule of every apprentice, just released from the grammar school. On the Continent, the professors and students take great liberties with the Latin language, if we may judge from theses and exercises published at foreign universities. *Cicero*, and even *Seneca*, would find some difficulty in recognizing their native tongue in modern compositions; and although the advancement of knowledge necessarily requires a corresponding increase of language, and new ideas demand new words, yet there is no reason why the Latin idiom should be wholly neglected, and the classical models entirely overlooked. Those who have dwelt with rapture over the polished poetry of Homer, Virgil, and Horace, or admired the sublime truths recorded in the works of Plato and Cicero, will be ready to applaud the industry and taste of the learned Professor, who has laboured to make the beauties of the last of these writers more familiar to medical readers. The work itself is well fitted for its object; it serves the purpose of a classical *vade-mecum*; it is an *enchiridion medicum*, furnished from the works of the most celebrated of Roman authors; it is a collection of flowers, selected from the richest garden of antiquity. We recommend it also, as a useful *grinding* book to those at college, who are sharpening their wits for taking their degrees; and we quote the following passage, as a specimen of Cicero's descriptive powers, taken from a variety of equally beautiful effusions of taste and feeling, which are to be found in the latter part of this entertaining volume:

> "Quis vero opifex præter naturam qua nihil potest esse callidius, tantam sollertiam persequi potuisset in sensibus? Quæ primum *oculos* membranis tenuissimis vestivit et sepsit; quas primum perlucidas fecit, ut per eas cerni posset; firmas autem, ut continerentur. Sed lubricos oculos fecit et mobiles, ut et declinarent, si quid noceret, et adspectum, quo vellent facile converterent. Aciesque ipsa qua cernimus, quæ *pupula* vocatur, ita parva est, ut ea quæ noscere possint, facile vitet. Palpebræque quæ sunt tegmenta oculorum, molissimæ tactu, ne læderent aciem, aptissime factæ et ad claudendas pupulas ne quid incideret, et ad aperiendas; idque providit ut identidem fieri posset cum maxima celeritate. Munitæque sunt palpebræ tanquam vallo pilorum; quibus et apertis oculis si quid incideret, repelleretur; et somno conniventibus cum oculis ad cernendum non egeremus, ut qui tanquam involuti, quiescerent. Latent præterea utiliter, et excelsis undique partibus sepiuntur Primum enim superiora, superciliis obducta sudorem a capite et a fronte defluentem repellunt. Genæ deinde ab inferiore parte tutantur subjectæ leviterque eminentes. *Nasus* ita locatus est, ut quasi murus oculis interjectus esse videatur. *Auditus* autem semper patet. Ejus enim sensu etiam dormientes egemus. A quo cum sonus est acceptus etiam e somno excitamur. Flexuosum iter habet, ne quid intrare possit, si simplex et directum pateret. Provisum etiam ut si qua minima bestiola conaretur irrumpere, in sordibus aurium tanquam in visco inhæresceret. Extra autem eminent quæ appellantur *aures*, et tegendi causa factæ tutandique sensus; et ne adjectæ voces laberentur atque errarent, priusquam sensus ab his pulsus esset. Sed duros et quasi corneolos habent introitus, multisque cum flexibus, quod his naturis relatus amplificatur sonus. Quocirca et in fidibus testudine resonatur aut cornu; et ex tortuosis locis et inclusis referuntur ampliores. Similiter *nares*, quæ semper propter necessarias utilitates patent, contractiores habent introitus, ne quid in eas quod noceat possit pervadere; humoremque semper habent ad pulverem multaque alia depellenda non inutilem. *Gustatus* præclare septus est. Ore enim continetur et ad usum apte et ad incolumitatis custodiam. Omnisque sensus hominum multo antecellit sensibus bestiarum."
>
> Cic. De Nat. Deor.

VI.

## VI.

*A Practical Treatise on the Diseases of the Stomach, and of Digestion; including the History and Treatment of those Affections of the Liver and Digestive Organs, which occur in Persons who return from the East and West Indies: with Observations on various Medicines, and particularly on the improper Use of Emetics.* By ARTHUR DANIEL STONE, M. D. Coll. Reg. Lond. Med. Soc. 8vo. pp. 291. London. 1806.

If, from the titlepage of this volume, the reader should expect any thing like scientific analysis, or accurate arrangement and description of the diseases of the stomach and of digestion, any attempt to trace the connexion and dependence of different functions disordered in those diseases, or any display of intelligence or method in the practical parts of this treatise, either in the general indications, or in the selection and application of particular remedies, he will, we fear, be greatly disappointed. But as some recompence, Dr Stone has kindly given somewhat more than is promised in the bill of fare, a chapter of anatomy, and a chapter of physiology. These, we are persuaded, Dr Stone designed as a gratuitous treat to his reader, for we cannot perceive, that they have any very natural connexion with the other parts of his treatise. And well, we think, they might have been spared.

With much pains, indeed, Dr Stone has laboured to prove, that the peritoneal and muscular coats, are not coats of the intestines, but mere coverings; that the villous is the only true coat; and that it is quite inelastic, so that when once stretched, it falls into folds, instead of contracting like the elastic peritoneal and muscular coverings; and that this is the true origin and formation of the valvulæ conniventes. This is the sum total of his anatomy. His physiology is much of a piece. Some crude and childish experiments, unnecessary in the present state of animal chemistry, are related, from which we learn, that a few drops of muriatic acid will curdle milk; that the curd remaining after filtration is soluble in more acid; and may be again precipitated, on the addition of an alkali. "Hence," says Dr Stone, "it appears that there is a substance in nature which coagulates milk; and which, also, after the watery part is separated from the coagulum, is capable of dissolving the latter; and that, on the addition of another substance, something very like chyle appears, or, in other words, the curd is reproduced;" and this sage deduction is employed to explain the coagulation and subsequent digestion of milk in the stomach.

Nor do we think Dr Stone appears to much greater advantage in the second part of his treatise, which he has dignified with the title of a history of the diseases of the stomach. It is rather a crude and vulgar symptomatology, than a descriptive history of different diseases. It might do well enough, to decorate and recommend a nostrum; but, we expect a sounder nosology, and better descriptions, from one who writes for the instruction of professional men.

Acidity, for example, we would rather consider as a symptom of diseased stomach, than a disease of itself, requiring such a description as this. "The symptoms attending acidity in the stomach are, flatulency, cardialgia, nausea, vomiting, costiveness, or purging, with discoloured feces, foul bowels, headach, &c." Any one of which symptoms, may, each in its turn, be with equal propriety described, and some of which, as cardialgia and flatulency, have been described, by Dr Stone, as diseases characterized by the same class of symptoms.

Repletion of the stomach, is another of Dr Stone's diseases. It is the effect, he tells us, of the posture in which many persons sit, when engaged in labour, or in study; and is indicated by a nauseous taste in the mouth, with furred tongue, pain in the region of the pylorus, costiveness, and *all the dyspeptic symptoms.* Every tyro in physic knows, that Dr Stone has described the dyspepsia of sedentary people. But Dr Stone, has refined on the common account of this matter, by referring the symptoms to repletion of the stomach, and this repletion to the effect of posture impeding the passage through the pylorus.

We have a not more instructive chapter on marasmus, in which we learn, amongst other sage remarks, that "marasmus sometimes arises from the *rupture of the thoracic duct*, and from other *impediments* in the lacteal absorbents: from febrile action, particularly from such diseases as are attended with hectic fever; and it may, and sometimes does, depend, on want of sufficient nourishment, or on *consumption of the aliment, by worms* in the primæ viæ." And again, that "the most common kind of marasmus depends upon too much eating."

A chapter on poisons is much in the same style. It is made up of such important observations as the following:

"Some vegetable matters, such as elaterium, and hellebore, when taken in large quantities, appear to produce their mischievous effects, simply by their powerfully purgative qualities; others, as the gall nut, and *some of the fungi*, by their *astringency.*"

We have discovered nothing like a *history of those affections of the*

*the liver and digestive organs*, which occur in persons who return from the *East and West Indies*, unless, indeed, the very trite and desultory observations, jumbled together in the fifth chapter, are to pass for such.

From the sixth chapter, "on the state of the stomach and abdominal viscera, produced by hard drinking," we collect this only information, that the symptoms of disordered stomach are to be referred to the stomach, which, in dram drinkers, has been found with a smooth glasslike surface internally.

The third part of Dr Stone's treatise, is entitled, "Treatment of Diseases," and is certainly by far the best part. It contains some tolerable observations, on the different methods and remedies employed in dyspeptic complaints; but they are like a few grains in a bushel of chaff. The same faulty arrangement, too, which we have reprobated in the second part, is followed in this, so that, instead of indications and remedies, directed by general pathological views, we have chapters on treatment of acidities in the stomach; of repletion of the stomach; of the stomach when enfeebled by old age, when poison has been swallowed, and so on.

But first of all, we have a long and desultory chapter on emetics, to prove that they have often been given very unnecessarily; that they frequently can do no good; and are sometimes pernicious; and the moral is, that "it is to be hoped, that the time will soon come, when these medicines may never be exhibited, except in cases of poisons, or immediate suffocation, without the sanction of some physician of sagacity and experience." Dr Stone has a particular aversion to antimony, which, he says, is a very unsafe medicine, "and most certainly should never be given as an emetic to children;" and in this proscription we would most heartily join with Dr Stone, could we be satisfied of what he asserts, as an unquestionable truth, "that more than one fine child, who has been made to swallow an antimonial emetic, has died suddenly, almost immediately; and on examination of the body, the contents of the stomach have been found in the cavity of the abdomen, *owing to the coats of the stomach being ruptured by the violence of the muscular contraction.*"

Though he allows ipecacuanah to be one of the safest emetics, he cannot suffer the vinous infusion of that drug, because it is *nauseous;* and "wine to make glad the heart of man, or in other words, to fortify his stomach, and improve his digestion, is most absurdly combined with nauseating emetic matter to make him sick, and stop the progress of digestion altogether for a time."

To balance the aversion which Dr Stone seems to entertain to antimonials, he can hazard the internal use of cerussa acetata, in cases of hemorrhagy; and the lead pill, he thinks, both efficacious and safe, though, according to his own experience, one in ten who have taken it, "feel colica pictonum in its incipient state."

It is quite unnecessary, to follow our author through all his therapeutics. His favourite remedies in the treatment of dyspeptic symptoms are gentle purgatives; and the combination of these with bitter and tonic medicines, make up his practice. He is very anxious to have it understood, that he has received no hint on this matter from any late writer; and he plainly tells us, in the conclusion, that he knew the whole of Dr Hamilton's practice, many years before the appearance of that writer's book on the utility of purgative medicines.

Now this, we must say, looks ill, very ill. We are, however, so far from thinking that Dr Stone has borrowed from Dr Hamilton, that we are persuaded, he has not even fully appreciated, or understood, the merit of that author's publication. The employment of laxatives, indeed, in chronic complaints, and especially in dyspepsia, is no new practice, but one long since fully understood. But, notwithstanding the assertion of Dr Stone, we believe the views and practice in chorea, marasmus, and chlorosis, contained in the book on the administration of purgatives, have every claim to novelty and utility.

## VII.

*An Account of the Ophthalmia which has appeared in England, since the return of the British Army from Egypt.* By JOHN VETCH, M. D. Member of the Medical Society of Edinburgh, and Assistant Surgeon to the 54th Foot. London. 1807. 8vo. pp 142.

THE contagious nature of the Egyptian ophthalmia seems now pretty generally admitted in this country; and it is but too well known, that, since the return of our soldiers from Egypt, the disease has been propagated at home. In the summer of 1805, it appeared in a violent form, and spread so generally amongst the soldiers of the second battalion of the 52d regiment, that of seven hundred men, of which that battalion was composed, six hundred and six cases of the disease, including relapses, occurred in the course of twelve months; and, of these, fifty were dismissed ed with the loss of both eyes, and forty with that of one. Of the disease, as it appeared on this occasion, we are now presented with a most satisfactory and instructive history by Dr Vetch, who was employed as one of the medical assistants at Riding-street Barracks; and who seems to have availed himself, with great intelligence and address, of the ample opportunities which his situation afforded him, of observing this ophthalmia, in all its forms and stages.

The second battalion of the 52d regiment was first formed, in November 1804, at Bambury in Oxfordshire. On the 9th June 1805, being then at Hythe Barracks, it was joined by about 500 volunteers, from the Irish militia, some of whom, it was found, had formerly been affected with the Egyptian ophthalmia, which they had contracted from being garrisoned along with others, who had suffered from it in Egypt and in the Mediterranean.

Before the arrival of these Irish recruits, the battalion had been healthy enough; and the first battalion of the same regiment, encamped at a little distance, the 43d regiment, and the Lincolnshire militia, in the same barracks, did not suffer from the disease, which afterwards appeared, with so much violence, in the 2d battalion of the 52d. The local circumstances, therefore, are insufficient to account for the origin and propagation of the disease. But one of the unfortunate effects of this ophthalmia is, the tendency which it leaves to relapse, on the application of any irritating cause. Accordingly, the first appearance of the disease, was in those men who had formerly been affected with it in Ireland. The first case occurred on the 14th July; about the middle of August, five others became suddenly affected with it; after which, it continued to prevail in the battalion, though moved from Hythe to Shorncliffe, to Dover, and again to Hythe; and lastly, on the 9th May 1806, to Riding-street Barracks, situated nearly 20 miles to the interior of the marsh of Romney. Here it was, the disease assumed its greatest severity, and our author had the opportunity of making his observations and inquiries.

The first appearance of the disease, and all the facts connected with its progress, in this unfortunate battalion, declare its descent from Egyptian ophthalmia, and its propagation by contagion. Dr Edmondstone had already shewn, that the sphere of action of this contagion was very limited, observing, that a great proportion of the cases arose from the direct application of virus from diseased to sound eyes.

This is the only mode of infection allowed by Dr Vetch, who maintains, that the disease is propagated by no other means, "than by the contact of the discharge, which takes place from the eyes of the diseased with those of the healthy." He denies that it is ever propagated by the emanation of any more subtile effluvia, arising either from the system or the eye of the patient.

"All the attendants on the sick, who were particularly careful in avoiding such intercourse as might communicate a local disease, escaped without exception; while the prevalence of the disease, in particular companies, without any difference in their relation to other causes, and among patients admitted into the hospital, on account of other diseases, forms a striking contrast to the exemption of the former. Each company has a separate room, in which the intercourse among the men is necessarily great. Many things are used in common; nor are they even over scrupulous in washing their faces in the same water; and, however attentively some may avoid this, they are all under the necessity of using the same towel. Many men who remained free from the disease, after it had affected all the others in the rooms to which they belonged, were in the habit of rather allowing themselves to remain dirty, than make use of the barrack towel, and always took an opportunity of washing at such a distance as to prevent the possibility of local communications: although some of those men latterly caught the infection, the practice still continued, on the whole, successful. During the progress of the disease, many of the women became affected with it. The rather promiscuous intercourse which subsists between them and the men, points out one of the many means by which the matter might be inadvertently conveyed to the eyes of all the latter."

And again, he observes in another place:

"No military or medical officer has yet contracted the disease, without being sensible of some local communication; and the uniform escape of those, of both capacities, who daily inspect the sick, is a sufficient answer to the first. I have continued, with impunity, to examine the eyes, when under any particular state of the disease, with a glass, whose focus requires that the eye of the observer must be within less than an inch of the object."

The violence and intermittent form of the most important symptoms, which characterized the disease as it appeared in the 2d battalion of the 52d, were seemingly much influenced by the circumstances of the district in which it occurred, the borders and centre of Romney Marsh. It was at Hythe, on the border of the Marsh, that the disease first assumed its violent form; at Riding-street, towards the centre of the Marsh, its severity was still more aggravated. On the battalion being removed to Maidstone it assumed a milder form; and again became violent on their return to Riding-street. Comparing these observations, with the circumstances which in Egypt seem most powerful in influencing this disease, Dr Vetch concludes generally, that the qualities of moisture, "without any regard to the peculiarity of their origin, but according to the degree of their presence, may be considered as the principal cause in aggravating the disease."

The first change observed on the eye, is that peculiar appearance generally implied by the term glassy, arising, seemingly, from distension of the finer vessels, the trunks of which afterwards appear advancing over the adnata. Before the eye, however, has become vascular, the internal lining of the lower palpebra may be observed inflamed, and is, therefore, the first seat of the disease. If the palpebræ be examined in this early stage, the line of inflammation will be found, in some cases, immediately beneath the tarsus; and, in many others, in the doubling of the adnata, where it passes from the eye to the palpebra. The caruncula lacrymalis, and the fold of the conjunctiva, are next affected. By careful examination, the appearance of purulent matter will be detected in the earliest period of the disease, lodged at the bottom of the palpebra. The inflammation now extends; the tears flow freely; and the purulent discharge becomes greatly increased. In this state, accompanied with little pain, the eye will sometimes remain for weeks. Where the disease has a tendency to become violent, these first symptoms are followed by attacks of heat and scalding, and by the sensation of gravel in the eye. The temporary duration of this sensation, and its regular recurrence, are characteristic of the disease, and indicative of its progress in individual cases. Its accession and departure are equally sudden; one paroxysm generally lasting from three to four hours: Such are the symptoms of the first stage of this affection. The accession of the second stage is marked by the greatly increased vascularity of the adnata, and better, by a great, and, for the most part, sudden, tumefaction of the palpebra; the secretion of purulent matter becomes now much increased; the adnata swells, and acquires the appearance called chemosis, to such a degree, in some cases, as to protrude between the palpebræ. In short, all the parts, at this period, swell out to a great degree, though the accompanying sensations are not very troublesome. The sensation of gravel in the eye is less tormenting in this than in the first stage. But the patient is now subject to a deeper seated pain, which is no less severe to him, " than interesting in the history of disease, from the little connexion it seems to have with the external symptoms, and the alarming indication it presents of an internal affection." The attacks of this pain are sudden, and regular in their recurrence. This deep seated pain is commonly felt in the internal parts of the eye itself; but frequently it occurs in the neighbouring parts, as in the space over the frontal sinuses, the temples, the face, or above the eye, about the supraorbitary hole, in a degree no less excruciating than when it attacks the eye. In these parts, the pain is aggravated by pressure; and a circumscribed swelling occasionally takes place, which is sudden in its appearance, and is usually dissipated during the intermission.

Irritation of the eye seems to have no effect in inducing or aggravating, and no local application in alleviating, this deep seated pain. If the eye can be exposed, no uneasiness is produced by the presence of a strong light. The pupil is more dilated and immoveable than natural, vision is less distinct, and the globe of the eye sometimes enlarged. In the greater number, the recurrence of the pain was in the evening; its duration generally from three to four hours. During the paroxysm, the purulent discharge is almost uniformly diminished; the secretion of tears increased. The state of the circulation appears to have been variously affected. In some, the pulse was little affected; in others, it was frequent, soft, and compressible. Often a pulse, not very frequent in the recumbent posture, rose to above 140 in the sitting or erect posture; in others, the pulse was weak and irregular. But it is to be noticed, that the observations on the pulse were made after the lancet had been freely adopted. In general, there was neither heat nor thirst complained of; the tongue was often white, but never dry or furred; and the appetite for food unimpaired, even during the violence of the disease. These functions, however, were more or less deranged during the paroxysms of pain. With the repetition of these painful paroxysms, the swelling of the parts, and profuse purulent discharge, the disease continues; but the changes which are going on in the eye itself cannot be well observed. When the symptoms have somewhat remitted, and the swelling has so far diminished as to allow the eye to be observed, the internal membrane of the palpebræ, and the adnata of the eye, have an appearance of being covered with florid red granulations, disposed in clusters and folds. And sometimes, so great an enlargement of the inner membrane of the palpebra takes place, as to protrude from beneath it, and produce a great degree of eversion. Ulceration of the cornea, with consequent opacity, in some cases, took place, to the destruction of vision; but in the most violent cases, the eye was destroyed by rupture of the cornea. In those cases, there have been commonly severe paroxysms of deep seated pain. The patient has a distinct sensation when the rupture takes place; the accident is also ascertained by a copious discharge of scalding water. In the greater number of cases, this happens when the swelling of the external parts is too great to permit an examination of the cornea. But in some cases, Dr Vetch had the good fortune to observe the manner in which the rupture is accomplished, and the consequent changes which take place, leading to the destruction of vision.

Examining the eye of a patient who, a little before, had felt the cornea give way, with the usual gush of scalding water, little injury could at first be detected; the patient even saw more correctly than before.

"My attention," continues Dr Vetch, "was at last attracted by a small line which extended across the lower segment of the cornea, and which remained without any alteration, after the eye was washed with tepid water; but as any attempts to ascertain the nature of this line gave uneasiness, its examination was left till next day, when I found it more visible along its whole extent, from a slight opacity which accompanied it, and which daily increased, till the greater extent of the cornea was not only opaque, but projected in an irregular cone. As this alteration of structure went on, the vision, which continued for some time after the rupture more correct than before, became completely obstructed. Other cases have occurred, which, by corresponding with the above, confirm the account I have now given, from which it appears, that the aqueous humour escapes by a division of the cornea, nearly as clean as if cut by a knife; and that it is to the attempts of the part to effect a reunion, under the presence of disease, that the future deformity is owing. Were the disease to subside immediately after the rupture of the cornea, this accident, in all probability, would not be attended with much permanent injury to the sight; but as, besides the obstacles which the presence of the disease occasions to its healthy re-union, the same causes which produce the first rupture continuing to operate, so as to produce a second, or a third, the deformity becomes further augmented, and the termination, with respect to vision, is proportionally unfavourable.

"In some cases, portions of the iris are entangled with the diseased cornea; but in no case have I ever found any formation of pus, or even a deposition of lymph, in the chambers of the eye, the internal parts of which appear always perfectly natural, and leave no room to suppose that the cornea is ruptured by previous disease. It would be useless to enumerate the variety of appearances which the cornea assumes after its rupture: it generally produces impartial and irregular tumours; the globe of the eye seldom suffers any diminution; and, in a few cases, the whole circumference of the cornea has been observed to project, as is more frequently the case in Egypt. In one case, the cornea was completely perforated by a small point of ulceration, which began on the external surface, and which produced a circular opening in its centre, which, however, was repaired without much permanent injury."

We have thus endeavoured to give an abridged view of our author's very excellent description of the peculiar symptoms of this ophthalmia. The most remarkable characteristics of it appear to be, the profuse purulent discharge, the regular paroxysms of pain, the absence of the *intolerantia lucis*, the unembarassed state of the functions, and the absence of general fever.

But nothing is more remarkable, in the history of this ophthalmia, than the failure of all the usual modes of treatment, and the great advantage at last obtained by large and repeated blood-letting, and a rigid antiphlogistic regimen. To enumerate

rate the different modes which were, in succession, tried without advantage, would here be unnecessary. It is sufficient to remark, that no impression seems to have been made on the disease by any of these; and, in general, that very little advantage, or relief of symptoms, ever appeared to result from the use of the remedies employed. For a more particular account, we refer our readers to the book itself. Every other means, then, having failed, large and repeated venesections, the most decided antiphlogistic regimen, with the regular exhibitions of purgatives, were proposed by Mr Knight, the Inspector General of Army Hospitals. The plan was adopted with the happiest effect. But it was chiefly by the free use of the lancet, that the disease was kept in subjection. Indeed, venesection was now practised to so unusual an extent, that we shall best satisfy our readers, by giving some of our author's observations at length, and in his own words:

> " When this rigorous system of depletion was first commenced, it was generally employed in those cases where the violence of the disease threatened the rupture of the cornea. In those it was resorted to on the accession of the pain, which it sometimes relieved, without seeming to prevent its recurrence, at others no sensible benefit was derived. Under such circumstances, it was often repeated to the eighth or ninth time, without the decided benefit which followed its more extensive employment. I am even inclined to think, that the relief which was attributed to the venesection, was, as it was then performed, the effect of the natural termination of the paroxysm. But allowing that it produced this temporary relief, the benefit which resulted, from checking, in succession, a number of paroxysms, seemed hardly to compensate for the expence at which it was obtained. As yet we had no certain rules for regulating the quantity of blood——seldom more than ℥xxx were taken at a time——and it was chiefly had recourse to during the paroxysm. The bleeding was afterwards adopted more fully in the early stage of the disease; and the quantity taken away was only measured by the effects it produced on the system, when all doubts as to the propriety of the practice ceased, from the benefit which immediately attended it. The disease seems now to be more under our controul, than any other in which the same remedy is employed. A few cases will still occur, in which it extends to the internal points of the eye; but these instances are rare, and merely shew the violence with which it would occur, if opposed by less vigorous measures. In every case where, on the first appearance of the disease, bleeding is employed to the proper extent, its effects are no less perceptible to the patient than to the surgeon. The diminished vascularity is the first effect which ensues; and before the end of the operation, the eye will often become nearly of its natural appearance. The cessation of all uneasiness should be the *sine qua non* of stopping the flow of blood. This, in a robust man, will often not be obtained until thirty or forty ounces have been taken away; and in a few, *deliquium* will take place before it is effected. One or other of these effects should always be

procured. By the repetition of this remedy, on every aggravation of the disease, whether in the appearance of the eye, or in the sensations of the patient, we may, in ninety cases in the hundred, prevent it from arriving at the second stage. If, however, in defiance of this treatment, it assumes its violent form, the same means are, if possible, to be more fully persevered in. In this stage, the patient will often bear bleeding to a greater extent; in many, fifty or fixty ounces must be taken away to relieve the pain, or bring on syncope; but we can always rely with certainty on the benefit which will ensue when either of these effects are produced. In every case where such practice is employed, however violent the tendency of the disease may be, its fatal termination will infallibly be prevented, and with much less expence to the patient, than by smaller and more frequent bleeding. According to the rules above laid down, for the extent to which this evacuation is to be carried, the quantity taken away must be in proportion to the strength of the patient, hence few cases will occur, where the practice cannot be put in execution."

In another place he observes,

"The alteration which this treatment produced, in the symptoms of the second stage, was very remarkable, nearly the same degree of tumefaction took place, both in the palpebræ and the conjunctiva, where it covers the eye; the former, however, were no longer subject to the same degree of eversion; the quantity of pus was much diminished; and in no case did granulation become a troublesome symptom. The swelling of the conjunctiva of the eye was seldom accompanied with the same degree of vascularity; in common cases it presented the perfect appearance of watery vesication. The pain, though equally severe, lasted above two or three hours at the utmost, and was much less regular in its recurrence. Besides, therefore, the actual reduction of the numbers in which the disease advanced to the second stage, the symptoms were also rendered much less violent by the early adoption of the treatment recommended. This practice, which has so fully met the exigency of the case, has not, perhaps, from its decision and its efficacy, a parallel in the practice of medicine——and every person who has seen it employed, is sufficiently convinced of its propriety; but those who have experienced the mortification of seeing every other means unequal to combat the disease, are best able to express a just sense of its benefits."

## VIII.

*Report on the State and Progress of Vaccine Inoculation in Bengal, during the Year* 1804, *submitted to the Medical Board at Fort-William.* By JOHN SHOOLBRED, Superintendent General of Vaccine Inoculation. 8vo. Calcutta. 1805.

THIS report, like that of the preceding year, by the same gentleman, is highly creditable to the zeal and intelligence of Mr Shoolbred. We only notice it, however, for the sake of quoting the following observations on the difficulty of preserving the disease in hot climates, and the most effectual means of counteracting these.

" The extreme difficulty of keeping up the disease in a very high temperature of the atmosphere, even by inoculating from subject to subject with recent fluid matter, as noticed in my report of last year, seems to be the principal cause that so little has been done at the vaccine stations beyond Patna; while the apathy and indifference of the native character, together with the avowed hostility of the whole body of native small-pox inoculators, sufficiently account for the small progress which vaccine inoculation has yet made at the civil stations, and generally throughout Bengal and the provinces.

" So early as April last year, I began to experience such frequent failures in my inoculations with recent fluid, that I became seriously alarmed for the loss of the virus under my own charge, I therefore immediately wrote to the different superintendents, to put them upon their guard against such an occurrence. From the subordinate superintendents, at Dacca, Moorshedabad, and Patna, I received satisfactory answers, assuring me that their inoculations continued to be successful, and that they were then under no apprehension of losing the disease. But at Allahabad, the disease had been lost even before the receipt of my letter. This happened on the 20th of April 1804, from no obvious cause; Mr Gibb having then failed in communicating the disease to five patients, whom he inoculated with fresh fluid matter in each arm, with the greatest care and deliberation. Mr Gibb, during the hot months, and the rains, made several unsuccessful attempts to restore the disease by means of dried matter; and even when the weather became colder, in October, November, and December, his exertions to that effect, though directed by the utmost zeal and attention, were equally unavailing. Matter was supplied to him liberally by Mr Macnab; and all the methods then in use were assiduously persevered in, for upwards of two months, during which time he inoculated ten or twelve children weekly, all, however, without effect, until Mr Evans sent him a mature vaccine scab from Cawnpore, on the 1st of January, with which he at last succeeded in producing the disease. This is a method of preserving the vaccine virus in a state of activity with which we have only lately become acquainted, and of which further notice will be taken presently.

" Having occupied so much of the time of the Board, in detailing the obstacles which have hitherto tended to impede the progress of vaccine inoculation, I have much satisfaction in being able now to point out some circumstances which promise in a short time to lessen, if not entirely to remove, both the difficulty arising from the climate, and from the prejudices hitherto entertained against the disease by the natives. These consist, in the discovery of a new and more successful method of preserving the virus in an active state; and in the recent adoption of such measures as cannot fail to conciliate the good will of the ſmall-pox inoculators, and to inform the natives, in general, of the true nature, and great utility of vaccine inoculation.

" In the appendix to my report of last year, I enumerated all the methods then known for preserving the virus in an active state, namely, the armed lancet, the impregnated thread, the plain glass plates, the glass plates with a cavity for containing the matter, the thorn, the ivory lancet, and the very ingenious exhausted tubes of Mr Giraud. All these methods were found to be exceedingly precarious, except the last; and of that it was impossible to make any considerable use, owing to the want of tubes in this country. Through the assistance of Dr Dinwiddie, however, I procured a few tubes, by one of which I succeeded in restoring the disease to Prince of Wales's Island, after a passage of eighteen days; and as the virus in the tube continued at that time as fluid as when taken from the pustule, I have no doubt but it would have retained its infecting quality for a much longer period. In that belief, I commissioned a considerable assortment of the tubes from their ingenious inventor, but which, the knowledge of a still easier and better method of preserving the virus, will now render unnecessary.

" This method, as simple as it is effectual, consists merely in the preservation of the peculiar scab or crust, into which the vaccine pustule is gradually converted, towards the conclusion of the disease, and in which the virus, in a dry state, is found to reside, with unimpaired activity, for a great length of time.

" It was not till September or October, last year, that I became acquainted with this valuable property of the mature vaccine scab. I then first saw the treatise on cow-pox, published at Edinburgh in 1802, by Mr Bryce, who has the merit of first introducing us to the knowledge of this useful discovery. I immediately made trial of it, and was much gratified to find, that, with a scab a month old, from the time of its dropping from the arm, I succeeded nearly as well as with recent fluid. Having an application for virus from Cawnpore in November last, I divided a scab, and sent one half of it to that station, and the other to Prince of Wales's Island. It succeeded perfectly at both places; at the latter, after it had been kept merely wrapped up in writing paper, for thirty-four days. A scab has also succeeded at Fort Marlborough, after a passage of forty-four days; and I have lately used one four months and a half old, on two children, making two punctures in each of their arms, which produced no less than six perfect pustules; and the disease in every respect went through its regular course. The discovery of the preservative quality of the scab, must, therefore, be considered as a circumstance of the greatest importance to the future progress of vaccination, leaving nothing further to be desired, on the very delicate and difficult subject of preserving the virus, and transmitting it to distant places.

" His Excellency, the most noble the Governor General in Council, had authorized the sending of children from Prince of Wales's Island to China, in order to transmit the disease to Canton, by means of successive inoculations. But as Mr Heriot, at Prince of Wales's Island, was made acquainted with the properties of the scab, before that intention could be carried into effect, the trouble and expence of this plan may now be saved, by his forwarding scabs by the China ships, as they pass Prince of Wales's Island on their voyage. The same thing may be said of transmitting the disease to New South Wales, or wherever else it is likely to meet with a cordial reception.

" The way to use the scab is, simply to cut off a small piece of it, and to bruise it on a bit of glass, or any other hard body, with the point of a penknife, in a small drop of cold water, so as to produce a turbid fluid, which is then to be inserted with a lancet, into the arms of as many children as can be procured, by two punctures in each arm, in the same manner as recent matter.

" From the prohibitory cautions of Dr Jenner, and some other writers, not to take matter for inoculation after the formation of the areola, it might naturally be expected, that, in using the scab, at a still later period, we should run some risk of producing what they call a spurious disease. But, from repeated experience, I am satisfied, that there is no ground whatever for such an apprehension, as I have never seen more perfect pustules, nor a disease more regular and complete, in every respect, than those which have been uniformly produced by the scab. Mr Bryce has further satisfied us on this head, by proving, that persons vaccinated from the scab, resist small-pox infection, as effectually as if vaccinated with recent fluid, just taken from the pustule; and he appears to have given a satisfactory explanation of the reason why the virus is not deteriorated in the crust, though it may be so in the matter surrounding it, in the advanced stage of the disease.

" From what has just been said of the nature and use of the vaccine scab, it is evident that there now will be much less risk than formerly, of the vaccine and civil stations continuing for any length of time without the disease; for, having once got possession of the virus, it will always be in the power of the Superintendents and Civil Surgeons to keep by them a supply of scabs, from which they may, at any time, renew it, in case of failure, either from the effects of the weather, or deficiency of patients; and that the latter obstacles will soon be very much diminished, there is every reason to hope."

## IX.

SAMUEL THOMAS SOEMMERING *Abbildungen des menschlichen Hoerorganes.* Folio, with Five Plates. Frankfort. 1806.

THESE delineations of the human ear, form an exact companion to the work on the eye, which we noticed in Vol. I. p. 222. The engravings are remarkable for their accuracy and beauty; but the text is nothing more than a perspicuous explanation of the figures.

Professor Soemmering begins his preface, as on the former occasion, with exposing, or rather exaggerating, the difficulties he had to encounter in attaining his object, which was, to represent the parts as they are connected in the living state, nothing dried, shrivelled, displaced, torn, or altered in any way; and farther, to select the most perfect or standard forms. The designs are not taken indiscriminately, from the right or left side; but always from the left, to admit of the various figures being more easily compared with each other. The arrangement, both of the plates and figures, is not arbitrary, or for the sake of symmetry; but according to a studied plan.

The first plate naturally commences with the external ear, or external part of the left organ of hearing; the first figure being taken from a male, and the second from a female, subject. In the latter, its appearance is longer, thinner, and more delicate. The third figure is the ear of an old woman, from which the cuticle has been removed, to shew the openings of the sebaceous glands. The fourth figure exhibits the muscles which *should* move the external ear.

> "At first view, it is obvious, with what considerable, powerful, and beautiful organs of motion, nature has furnished the human ear; although, in most men, the use of this apparatus is limited, or entirely destroyed, partly through conceited prejudice, and partly by means of inconsiderate clothing. For it is surely conceited prejudice, to consider projecting, that is useful, ears, as ugly; and we must consider as inconsiderate clothing, those caps and hats, with which, from the moment of birth, the ears are pressed flat to the head, lamed, and, as if intentionally, rendered incapable of motion."

The fifth figure shews the external, and the sixth the internal, view of the cartilages of the ear, with their muscles: the seventh and eighth figures the same dissected quite clean, to shew how much the form of the external ear depends on that of the cartilages. The ninth figure is very important, and exhibits all the essential parts of the organ of hearing in their relative situations.

The second plate contains twenty-one figures, which are intended

tended to represent the internal parts of the ear, both of their natural size, and magnified to four times their diameter.

" By the minute consideration of the bendings and increasing thickness of this nerve (*corda tympani*) in its progress, I intended not only to state the facts correctly, but also to render evident some important anatomical positions.

" In the first place, it does not seem to be so universally known, or at least not so universally allowed, as it ought to be, that the nervous fibres are conical, not cylindrical, the apex being directed towards the brain, and the basis toward the circumference. By using a magnifying power, we here observe this conformation distinctly, on a nerve which requires no preparation, but only the proper opening of the tympanum, by which means all suspicion is removed that it may be owing to the mode of preparation.

" Secondly, Against the hypothesis, that nerves act as stretched strings, it is impossible to adduce a more obvious and convincing fact than this nerve, fastened in such numerous flexures. For, how is it even conceivable that this nerve could vibrate like a string ? "

Of the third table, Professor Soemmering is extremely proud; he calls it the master piece of his draughtsman, Professor Koeck; and says, that after ten years examination of it, he neither knows any thing to add, or take away, It is certainly extremely beautiful, and represents every thing connected with the labyrinth, including the discoveries of Scarpa and Comparetti. The principal figures are magnified to four times their diameter, and exhibit views of the labyrinth entire, and halved through its whole extent, seen from above, below, and from the side ; the soft parts, as contained in it, and taken out. For exhibiting the auditory nerve distinctly, Professor Soemmering directs us, after opening the cochlea, to steep it in dilute muriatic acid, which dissolves the earthy part of the bone, when the yellowish white opaque nerve is easily distinguished from the blueish white semitransparent cartilage of the bone.

The fourth plate contains many miscellaneous figures of the arteries, nerves, &c. of the ear, which could not be properly introduced into the preceding ones; and the fifth, or last plate, contains a beautiful outline of the base of a female skull, seen from within, with the parts belonging to the ear *in situ*, dissected, and highly finished.

Such are the contents of a work which Professor Soemmering, as he himself tells us, " he leaves to posterity, as the fruit of his mind, generated from the mere love of the science, and cultivated, for 13 years, in the *golden age* of the state of Mayence, with the gratifying consciousness of having spared no pains, or cost, in its production. We must, however, regret, that he has not done more ; that he has omitted entirely the communication between the mouth and ear ; and that he has uniformly avoided ed the introduction of any physiological or pathological remarks, and all comparative anatomy, as his great knowledge of these will probably die with him. Every reader of the following sentence of his preface, will join us in this regret:

"Nor have I added any part of the information which I have derived from comparative anatomy, however much I considered it my duty to examine the organ of hearing in mammalia, birds, amphibia, fishes, and insects, and, in my youth, had opportunities of receiving personal instruction from Camper himself, on the conformation of the organs of hearing in the rarest animals, in his valuable cabinet, and even of consulting his manuscripts."

# PART III.

## MEDICAL INTELLIGENCE.

### *Extract of Letter from Dr Patoun of Aberdeen, containing an Account of a singular Case of Monstrosity.*

"On the afternoon of the 29th December 1806, I was called to deliver the wife of A. R., who had been taken in labour the evening preceding. Upon examination, I found that the head of the child presented; and, as yet, every thing seemed favourable, so that I expected the labour would be soon terminated, it being the woman's fourth pregnancy. Notwithstanding the pains were strong and forcing, delivery was not accomplished until the morning of the 30th, when, to my astonishment, a fœtus of a very singular appearance, and enormous size, was brought into the world. The whole body, from the encaphalon to the extremity of the tarsus, was in a state of remarkable intumescence; and, on the right side, was a tumour about the size of an ordinary child's head, which I at first imagined to be water collected there, under the cutis. This premature conclusion I formed, from the remarkable dropsical state of the body.

But, upon examining the excrescence more particularly, I found it to be compact, and without any fluctuation when touched, so that I was at once convinced, whatever might be the contents of this tumour, it was not water. From the great dread and horror in which dissections are held, by the lower orders of society in this part of the country, and more especially the dissection of infants, I was perfectly aware that I should not have the consent of the parents to investigate this phenomenon in a deliberate manner, I resolved, therefore, to employ my time to the best advantage. While the midwife and other attendants were employed in applying the roller, and getting the mother laid comfortable and dry (the placenta having followed immediately after the fœtus), I embraced the opportunity of opening the bag; and, to my astonishment, discovered the contents of this tumour to be the lung of the right side, lying completely without the costæ, and connected with the internal parts of the thorax by a vascular rope, of the thickness of one's finger, passing through an opening of about half an inch diameter, between the fourth and fifth ribs, about three inches from the posterior extremities of the costæ. This medium of communication, between the internal and external parts, I considered to be a congeries of blood vessels and nerves, such as generally go to the lungs; for having, in my precipitation, punctured the cord with the point of the scalpel, one of the vessels was wounded, and a considerable quantity of blood flowed out. The lungs were quite in a compact state, the child having never breathed; nay, it appeared that it had been dead for some little time, as the cuticle now began to peel off; but this early desquamation might, in part, be owing to the general accumulation in the cellular system.

This portion of the lungs was of a pale red colour, with some livid spots all over the surface; and between it and the cutis vera was a membrane, which separated alike easily from both; but whether this membrane was, as in all ordinary cases, double, I did not ascertain.

The regular convexity and concavity of the lungs, in natural cases, were not apparent in this instance, the portion being quite of a globular form, and surrounded with a quantity of thick gelatinous lymph, containing some streaks of blood.

Here my examinations were interrupted, so that, I could make no further observations. It, however, appeared evident, that the monstrosity in this case had been *ab origine*, as there was no apparent laceration by which the lungs could have been forced out during the process of labour. The edges of the foramen, through which the vascular rope passed, were evidently in a sound state, having not the slightest appearance of any rupture. The mother had been affected, during the greater part of her pregnancy, with a severe pain in the right side of the abdomen, which often prevented her enjoying repose on a bed, being least painful in the erect posture. In the early part of her pregnancy, she had been exposed to the fatigues of a long journey, frequently drenched with rain, and chilled with cold, which brought on a consumption; and, as she advanced in pregnancy, the phthisical symptoms became more and more alarming. About three weeks before her delivery, she consulted me concerning her truly distressed situation. I did not chuse to sign the death warrant of the poor sufferer, by informing her (what I felt pretty confident of) that she needed hardly expect to survive the process of parturition; yet, under particular management, this she outlived. On visiting her the day after delivery, I found that the pain in the abdomen had altogether subsided, without any abatement

of

of the phthisis. I acquainted her relatives that there was no prospect of her attaining a perfect recovery, mentioning, that she could not survive the period of three weeks; for I have seldom met with a case of this nature where the patient did not sink in the course of three weeks; in this particular instance, 22 days closed the scene.

I forbear to make any remarks on this particular case, having barely stated facts, as they occurred, for the information of my fellow practitioners, leaving to others of more experience to favour us with their observations.

## *Supplement to the Madrid Gazette of the* 14*th October* 1806.

On Sunday the 7th of September last, Dr Francis Xavier Balmis, surgeon extraordinary to the King, had the honour of kissing his Majesty's hand, on occasion of his return from a voyage round the world, executed with the sole object of carrying to all the possessions of the crown of Spain, situated beyond the seas, and to those of several other nations, the inestimable gift of vaccine inoculation. His Majesty has inquired, with the liveliest interest, into all that materially related to the expedition, and learned, with the utmost satisfaction, that its result has exceeded the most sanguine expectations that were entertained at the time of the enterprize.

This undertaking had been committed to the diligence of several members of the faculty, and subordinate persons, carrying with them twenty-two children, who had never undergone the small-pox, selected for the the preservation of the precious fluid, by transmitting it successively from one to another, during the course of the voyage. The expedition set sail from Corunna, under the direction of Balmis, on the 30th November 1803. It made the first stoppage at the Canary Islands, the second at Porto-Rico, and the third at the Caracas. On leaving that province, by the port of La Guayra, it was divided into two branches; one part sailing to South America, under the charge of the Subdirector Don Francis Salvani; the other, with the Director Balmis on board, steering for the Havana, and thence for Yucatan. There a subdivision took place: the Professor Francis Pastor proceeding from the port of Sisal, to that of Villa Harmosa, in the province of Tobasca, for the purpose of propagating vaccination in the district of Cuidad Real of Chiapa, and on to Goatemala, making a circuit of four hundred leagues, through a long and rough road, comprising Oaxaca; while the rest of the expedition, which arrived without accident at Veracruz, traversed not only the viceroyalty of New Spain, but also the interior provinces; whence it was to return to Mexico, which was the point of reunion.

This precious preservative against the ravages of the small-pox, has already been extended through the whole of North America, to the coasts of Sonora and Sinalca, and even to the Gentiles and Neophites of High

Pimeria. In each capital a council has been instituted, composed of the principal authorities, and the most zealous members of the faculty, charged with the preservation of this invaluable specific, as a sacred deposit, for which they are accountable to the King and to posterity.

This being acomplished, it was the next care of the Director to carry this part of the expedition from America to Asia, crowned with the most brilliant success, and, with it, the comfort of humanity. Some difficulties having been surmounted, he embarked in the port of Acapulco for the Philippine Islands; that being the point at which, if attainable, it was originally intended that the undertaking should be terminated.

The bounty of Divine Providence having vouchsafed to second the great and pious designs of the King, Balmis happily performed the voyage in little more than two months; carrying with him, from New Spain, twenty-six children, destined to be vaccinated in succession as before; and, as many of them were infants, they were committed to the care of the Matron of the Foundling Hospital at La Corunna, who, in this, as well as the former voyages, conducted herself in a manner to merit approbation. The expedition having arrived at the Philippines, and propagated the specific in the islands subject to his Catholic Majesty, Balmis, having concluded his philanthropic commission, concerted with the Captain General the means of extending the beneficence of the King, and the glory of his august name, to the remotest confines of Asia.

In point of fact, the cow-pox has been disseminated through the vast Archipelago of the Visayan Islands, whose Chiefs, accustomed to wage perpetual war with us, have laid down their arms, admiring the generosity of an enemy, who conferred upon them the blessings of health and life, at the time when they were labouring under the ravages of an epidemic small-pox. The principal persons of the Portuguese colonies, and of the Chinese empire, manifested themselves no less beholden, when Balmis reached Macao and Canton; in both which places he accomplished the introduction of fresh virus, in all its activity, by the means already related: a result, which the English, on repeated trials, had failed to procure, in the various occasions when they brought out portions of matter in the ships of their East India Company, which lost their efficacy on the passage, and arrived inert.

After having propagated the vaccine at Canton, as far as possibility and the political circumstances of the empire would permit, and having confided the further dissemination of it to the physicians of the English factory at the above-mentioned port, Balmis returned to Macao, and embarked in a Portuguese vessel for Lisbon; where he arrived on the 15th August. In the way he stopped at St Helena, in which, as in other places, by dint of exhortation and perseverance, he prevailed upon the English to adopt the astonishing antidote, which they had undervalued for the space of more than eight years, though it was a discovery of their nation, and though it was sent to them by JENNER himself.

Of that branch of the expedition which was destined for Peru, it is ascertained that it was shipwrecked in one of the mouths of the River de la Magdalena; but having derived immediate succour from the natives, from the Magistrates adjacent, and from the Governor of Carthagena, the Subdirector, the three members of the faculty who accompanied him, and the children, were saved, with the fluid in good preservation, which they extended in that port, and its province, with activity and success. Thence it was carried to the isthmus of Panama; and persons, properly provided with all necessaries, undertook the long and painful navigation of the River de la Magdalena: separating, when they reached the interior, to discharge their commission in the towns of Teneriffe, Mampox, Ocana, Socorro, San Gill y Medellin, in the valley of Cucuta, and in the cities of Pamplona, Giron, Tunja, Velez, and other places in the neighbourhood, until they met at Santa Fe: leaving everywhere suitable instructions for the Members of the Faculty, and, in the more considerable towns, regulations conformable to those rules which the Director had prescribed for the preservation of the virus; which the Viceroy affirms to have been communicated to *fifty thousand* persons, without one unfavourable result. Towards the close of March, 1805, they prepared to continue their journey in separate tracks, for the purpose of extending themselves, with greater facility and promptitude, over the remaining districts of the Viceroyalty, situated in the road of Popayan, Cuenca, and Quito, as far as Lima. In the August following they reached Guayaquil.

The result of this expedition has been, not merely to spread the vaccine among all people, whether friends or enemies; among Moors, among Visayans, and among Chinese; but also to secure to posterity, in the dominions of his Majesty, the perpetuity of so great a benefit, partly by means of the central committees that have been established, as well as by the discovery which Balmis made of an indigenous matter in the cows of the valley of Atlixco, near the city of Puebla de los Angeles; in the neighbourhood of that of Valladolid de Mechoacan, where the adjutant Antonio Gutierrez found it; and in the district of Calabozo, in the province of Caracas, where Don Carlos de Pozo, physician of the residence, found it.

A multitude of observations, which will be published without delay, respecting the developement of the vaccine in various climes, and respecting its efficacy, not merely in preventing the natural small-pox, but in curing simultaneously other morbid affections of the human frame, will manifest how important to humanity will prove the consequences of an expedition, which has no parallel in history.

Though the object of this undertaking was limited to the communication of the vaccine in every quarter; to the instruction of Professors, and to the establishment of regulations, which might serve to render it perpetual,—nevertheless, the Director has omitted no means of rendering his services beneficial, at the same time, to agriculture and the sciences. He brings with him a considerable collection of exotic plants. He has caused to be drawn the most valuable subjects in natural history. He has amassed much important information; and, among other claims to the gratitude of his country, not the least consists in having imported a valuable assemblage of trees and vegetables, in a state to admit of propagation, and which, being cultivated in those parts of the peninsula that are most congenial to their growth, will render this expedition as memorable in the annals of agriculture, as in those of medicine and humanity. It is hoped that the Subdirector and his coadjutors, appointed to carry these blessings to Peru, will shortly return by way of Buenos Ayres, after having accomplished their journey through that viceroyalty, the viceroyalty of Lima, and the districts of Chili and Charcas; and that they will bring with them such collections and observations as they have been able to acquire, according to the instructions given by the director, without losing sight of the philantrophic commission which they received from his Majesty, in the plentitude of his zeal for the welfare of the human race.

## *Medical Fees in* 1700.

In a book, entitled "*Levamen Infirmi;* or, Cordial Comfort to the Sick and Diseased. By *D. Irish,* Practitioner in Physick and Surgery. 8vo. London, 1700," published at the beginning of the last century, the usual fees to physicians and surgeons at that time, are thus stated:

"To a graduate in physick, his due is about ten shillings, though he commonly expects or demands twenty. Those that are only licensed physicians, their due is no more than six shillings and eight pence, though they commonly demand ten shillings. A surgeon's fee is twelve pence a mile, be his journey far or near; ten groats to set a bone broke or out of joint; and for letting of blood one shilling: the cutting off or amputation of any limb is five pounds; but there is no settled price for the cure."

The charges of some apothecaries about the same period, are recorded in a polemical pamphlet, entitled "An Historical Account of the Rights and Priviledges of the Royal College of Physicians, and of the Incorporation of Chirurgions in Edinburgh. Wherein the present ill state of the Practice of Physick, with the Causes thereof is consider'd, and some Remedies humbly proposed. To which is added, an Appendix, giving an account of the Overture given in by the said Chirurgions to the Parliament, against the Physicians. *Veritas odium parit.* 4to. 1707."

"That the conjunction of Chirurgery and Pharmacy is prejudicial to the Lieges, and implies in it self a plain inconsistency, is evident to any person that will be at the pains to consider, that thereby their lives are greatly endangered, unless the same person could be in two places at once, for how can he be in his Shop *qua* apothecary, overseeing the dispencing of the Physicians Receipts as he ought to do, and at the same time *qua* Chirurgion in the remotest part in the Town, or perhaps in the Country performing Chirurgical Operations which cannot suffer delay; Of necessity he must either neglect the one or the other, or at the best he must trust the dispensing his Drugs [the Chirurgical part he must perform himself] to some ignorant or roguish Apprentice, who ordinarly puts in *Quids* for *Quos*, as his *Caprice* dictats, some of the Masters not being overstock'd with Drugs; And thus the Patient risques his Life, and the Physician his Reputation; But as the Lieges are evidently prejudged by it, so they have not the least advantage, they paying as much to them for their Drugs as Apothecary, and as much for any thing relating to Chirurgery, as if they imployed a different person for each, and are vastly worse serv'd to the boot.

" That the Conjunction is convenient to themselves I do not question, their gain being thereby doubled, and the great Estates some of them have made in a short time, do plainly evince it, for being payed *qua* Apothecary and *qua* Chirurgion (and some of them very angry if not payed *qua* Doctor too) it is no wonder that their Incomes are considerable.

" And sure the Bait must be sweet, that could tempt some of the simple *Apothecaries*, not only to pay a considerable Sum of Money, (some of them an hundred *pound sterling*) but contrary to their Oaths, some of which Subscribed with their Hands are yet extant, to enter Chirurgions: Whereby the great Gains they have formerly made has so encreased their Number, that to make them all live, there must be a strange extortioning of the Lieges, so that 'tis no extraordinary thing to charge half a Crown for a *Mercurial Bolus* not worth three half Pennies, a Crown for ane *Emulsion* not worth a groat, a Crown or four *shillings* for a Pint of *Decoction* of *Sarsa*, not worth above Ten pence, Fourty pence, or Four shillings *sterling* for a drop weight of *Jesuits* Powder (and that to be repeated once in two Hours) when an Ounce was to be sold for less than sixteen pence, which encreases the price of it to three pound four shillings *Sterling*, thus in an Accompt Two thousand seven hundred pound *Scots* for *Decoction* of *Sarsa*, three pounds *sterling* for a pint of *Lowers* bitter *Tincture* have been charged and payed, Twenty pound *sterl.* for a course of *Mercury* that cost not Ten *shillings*, Twelve hundred *Merks* for a Clap. And if any of of these Matters of Fact be contraverted Chapter and Leaf shall be cited: This is no ways design'd to be charged upon their whole Society, there being honest just conscientious Men amongst them, but that some effectual methods may be fallen upon to hinder such Abuses for the Future. "

## *Quarterly Report of Diseases treated at the* PUBLIC DISPENSARY, *(near Carey-street), London, from 28th February to 31st May* 1807.

### ACUTE DISEASES.

| | No. of Cases. | | No. of Cases. |
|---|---|---|---|
| Tertiana | 3 | Enteritis | 1 |
| Synochus | 14 | Dysenteria | 12 |
| Typhus | 4 | Rubeola | 3 |
| Febris post partum | 1 | Scarlatina | 1 |
| Peritonitis puerperarum | 1 | Miliaria | 1 |
| Febris infantum | 3 | Urticaria | 2 |
| Ophthalmia | 2 | Erysipelas | 2 |
| Catarrhus | 105 | Rheumatismus | 17 |
| Pneumonia | 17 | Arthritis rheumatica | 10 |
| Peripneumonia notha | 8 | Apoplexia | 1 |
| Pertussis | 3 | Odontalgia | 1 |
| Cynanche tonsillaris | 6 | Dentitio | 1 |
| Hepatitis | 1 | Abortus | 1 |

### CHRONIC DISEASES.

| | No. of Cases | | No. of Cases. |
|---|---|---|---|
| Cephalæa | 12 | Chorea | 1 |
| Hemicrania | 1 | Epilepsia | 1 |
| Vertigo | 2 | Hysteria | 1 |
| Asthenia | 17 | Melancholia | 3 |
| Dyspepsia | 16 | Hypochondriasis | 1 |
| Gastrodynia | 15 | Amenorrhœa | 7 |
| Hæmatemesis | 1 | Chlorosis | 1 |
| Dolores hepatici | 1 | Menorrhagia | 6 |
| Icterus | 1 | Leucorrhœa | 15 |
| Enterodynia | 7 | Cancer uteri | 3 |
| Colica | 2 | Nephralgia | 1 |
| —— pictonum | 3 | Dysuria calculosa | 2 |
| Tænia | 2 | Hydrops | 8 |
| Ascarides | 2 | Anasarca | 4 |
| Constipatio | 4 | Rheumatismus chronicus | 28 |
| Diarrhœa | 11 | Nodositas | 1 |
| Hæmorrhois | 5 | Paralysis | 4 |
| Marasmus | 9 | Scrofula | 1 |
| Catarrhus chronicus | 68 | Lichen | 1 |
| Asthma | 2 | Scabies | 2 |
| Dyspnœa | 4 | Porrigo | 1 |
| Pleurodyne | 2 | Impetigo | 7 |
| Hectica adolescentium | 1 | Prurigo | 5 |
| Hæmoptysis et Phthisis | 22 | Intertrigo | 1 |
| Palpitatio | 2 | | |

The month of March was cold and cloudy; the wind being generally from the north and north-east, and the medium temperature about 37° of Fahrenheit. Snow fell occasionally in small quantities; and on the 31st of that month, and the 2d of April, the fall of snow was very great. From that time, to the commencement of May, the wind was variable; the mean temperature about 51°, with little rain. On the 3d, 4th, and 5th, and again on the 30th of May, the rains were heavy; and in the intervening period, the temperature was unusually hot for a few days, the thermometer being upwards of 80°.

The cold weather of March was productive of a numerous brood of catarrhal affections, nearly one half of those in the preceding list having occurred in that month. The combination of catarrh with rheumatism was very frequent, so that the number of these diseases was greater than it appears to be from the list, as the most urgent of the two is only mentioned. Catarrhal symptoms were also frequently united with those of dysentery. The variable state of the atmosphere, especially the alternations of heat with heavy rains, during April and May, continued to give rise to catarrh, and particularly to its combination with disorders of the bowels.

The inflammatory diseases did not assume a very acute form; and generally yielded to moderate evacuants, and the antiphlogistic regimen. The lower classes of the people, indeed, in this metropolis, living in confined atmospheres, occupied in unwholesome employments, and subsisting frequently on a diet, at once scanty and affording a defective nutriment, rarely attain a highly inflammatory temperament. Corpulency, or a florid complexion, is seldom seen among those who apply, when sick, to a dispensary. Hence their diseases are seldom accompanied by a high phlogistic diathesis; they seldom require blood-letting, and will not bear any considerable evacuation in that way: and hence, when the symptoms are sufficiently violent to demand that evacuation, the relief is, in general, speedy and complete, and the repetition of the remedy is very seldom necessary. Occasionally, indeed, (as happened in one of the cases of pneumonia in a female, which was attended with a most acute pain of the side, and a sharp, though not strong pulse), one blood-letting, to the extent of 10 or 12 ounces, not only subdues the inflammation, but produces a great general depression of the system. The only exceptions to these observations, have occurred in men of unusually athletic constitution, who have lately come from the country, or who are employed in labour which requires a constant muscular exercise. Even during the period of illness, the circumstances which attend the patient, confined air, dirt, noise, bad nursing, &c. have a direct tendency to depress the system, and to lower the type of the disease. Accordingly, in fever, we have frequently observed, that cordials appeared to be required, and were administered with decided benefit, at a period of the disease, and under appearances of the tongue, &c. which, had the patient been in a more favourable situation, as in a ward of the House of Recovery, would have utterly forbid the use of such remedies. We have often been surprised too, after having seen a patient in the low muttering delirium of fever, in his own habitation, to find him with clear intellect, and invigorated system, after he had passed a night in the House of Recovery, although no medicine whatever had been given. The absurdity of prescribing for the name of a disease, without a minute attention to the nature of the symptoms, has often been pointed out; and it is equally obvious, that the situation and external circumstances of the patient, require the consideration of the practitioner.

The two cases under the head of Palpitatio, were organic diseases of the heart, probably enlargements of the ventricles, in the treatment of which, the directions of the physician can be merely negative. The patients were a man and woman, both about the age of 25. The symptoms were a constant preternatural frequency and force of the motion of the heart; (in the man, who suffered more severely, the motion was so strong, as to be visible to the by-standers, by the shaking of his coat, and the starting of his neckcloth at each contraction of the heart), occasional fits of severe palpitation; a sudden acute pain at the pit of the stomach, shooting to the spine, on taking exercise, which compelled the patient to stop; a burning heat about the præcordia; an occasional tingling and numbness of the integuments of the chest. The heart felt as if more obtuse and broader under the hand applied to the side; and, in the man, the beating was as strong and distinct at the pit of the stomach, as under the proper ribs, and almost as strong at the top of the sternum. In some cases, a continued use of digitalis, by diminishing the irritability of the system, and of the heart in particular, has contributed to relieve the symptoms materially; and rest, a constant free state of the bowels, and avoiding all irritations, conduce to the same purpose. But in the two instances, just alluded to, no benefit was obtained by these measures, during the short time in which they were employed.

Before I conclude this report, I cannot forbear mentioning the marked success, which followed the application of tepid, or nearly cold water, to the abdomen, in the case of peritoneal inflammation. The patient was a very delicate woman, 22 years of age, in the third week after delivery of her first child. The pain of the abdomen was extremely acute, and the tenderness so great, as to render the weight of the bed-clothes distressing; pulse above 120, sharp and hard, but small; tongue dry, and covered with a cream coloured fur; the heat of the integuments of the belly was higher, and more pungent to the hand, than in the most violent scarlet fever that I have seen; the bowels rather costive; leeches were not to be procured; and cupping would not have been tolerable. The abdomen was, therefore, repeatedly sponged with water lukewarm, for a few minutes, with the effect of completely removing the pain, which again recurred, less violently, and was repeatedly removed by the same application, and became gradually less severe, until she was altogether free from it. About the sixth day of the disease, when the peritoneal inflammation was gone, a troublesome tenesmus, with slimy stools, came on; but was removed by two doses of calomel and opium. The only medicine which she took, during the painful state of the disease, was a mixture of magnesia vitriolata, in mint water, as a laxative. Satisfied as I am, that a diminution of the preternatural temperature in external inflammation, as well as in general fever, is the most effectual mode which we possess of alleviating both, and that the rules of Dr Currie are founded upon the most sound induction from experience; and having seen many instances of its efficacy, without one untoward result, I regret that prejudices should be so deeply rooted in the public, as to render it a matter of difficulty to introduce so beneficial a practice. T. Bateman.

*London, May* 31*st.*

## TO CORRESPONDENTS.

Since the publication of our last Number, we have received, for Analysis, *Dr Clutterbuck's* Inquiry into the Seat and Nature of Fever. Part I.—*Dr Thomas's* Practice of Physic, 2d Edition.—Practical Synopsis of the Materia Alimentaria et Medica, 2 vols. —*Dr Clanny's* Analysis of the Mineral Waters at Butterby near Durham;—and, Observations on Medical Reform.

Communications should be sent a month before the day of Publication, addressed to the care of Archibald Constable, & Co., Edinburgh; John Murray, No. 32, Fleet-street, London; and Gilbert & Hodges, Dublin.

*The XII. Number will be published October 1st.*

THE

# EDINBURGH
# MEDICAL & SURGICAL JOURNAL.

## 1. OCTOBER 1807.

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## PART I.

### ORIGINAL COMMUNICATIONS.

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### I.

### *A Letter to Baron* JACOBI KLÖEST, *Envoy Extraordinary and Minister Plenipotentiary from his Prussian Majesty to the Court of Great Britain, from* GILBERT BLANE, F.R.SS. *London and Edinburgh; Corresponding Member of the J. A. S. of St Petersburgh; and Physician to his Royal Highness the Prince of Wales, respecting the Nature and Prevention of the Yellow Fever.*

[The question respecting the infectious nature of the yellow fever being one of great importance to medical science, and to the safety, as well as to the commercial interests of this country, and, as a diversity of opinion still exists among the best informed of the medical profession, on both sides of the Atlantic, as is evident from the essay of Dr Miller, inserted in our last number, we deem it our duty to give the fullest scope and publicity to the discussion of this subject, through the channel of this Journal. We have, therefore, procured a copy of a prize question proposed by the Government of Prussia, which, in common with other States on the Continent, became greatly alarmed at the progress of this new and formidable epidemic, and also an answer to it from Dr Blane; and we shall thankfully receive any other answers that may have been given to this question, or any further information on this subject, in whatever shape.]

SIR,

I HAVE had the honour of receiving your Excellency's note, together with the papers containing the benevolent and patriotic proposal of his Prussian Majesty, for obtaining information respecting the Nature and Prevention of the Yellow Fever *; and I am much flattered by the wish you express, that I would undertake the consideration of this subject.

My various duties and occupations will not allow me to draw up an answer agreeable to the form prescribed; but as the disease in question is one which has come largely under my observation, and which I have been led particularly to study and investigate, in the course of my public duty at home and abroad, I shall do my utmost to answer the proposed questions, by such remarks as are calculated to afford satisfaction; and I hope to remove the anxiety of the Prussian Government, respecting the danger to the public health from this epidemic.

In this view, it is essential to remark, that this destructive fever has never been known to appear, except either in tropical climates, or in those seasons, in the more temperate climates, in which the atmospheric heat has for some length of time been equal to the tropical heat, that is, at or above 80° of Fahrenheit's, or 21° of Reaumur's thermometer. This is a fact incontrovertibly established by observation; for there is no instance, either in North America or Europe, of the yellow fever appearing, except at these degrees of heat, nor of its surviving after the atmosphere had fallen to a lower degree of temperature. This is less to be wondered at in North America, where the winters are extremely severe; but it holds equally true at Cadiz, Malaga, Gibraltar, and other parts of Spain, where the winters are warm, and where this disease spontaneously disappeared, in degrees of heat equal to the usual summer heats in the north of Europe.

This is the fact, which I am desirous of communicating to the Government of Prussia, in order to remove any groundless fears, with regard to the danger to be apprehended to the states of his Majesty from this infectious disorder. It is an observation which seems improbable *à priori*, and can only command belief from the truth of it being established by a rigid induction of facts. It differs in this respect from the small-pox, and other specific contagions, but is very analogous to the plague; for it is perfectly ascertained, that the prevalence of this latter epidemic is confined to a particular range of atmospheric heat, both in regard to climate and season. We know historically, that it has never prevailed in England but in one and the same season of the year, and that it has entirely disappeared, at least as an epidemic, as the winter has come on. A high degree of heat is equally inimical to it; for it has never been known within the tropics, and it disappears or declines in Egypt, as soon as the tropical heats come on at Midsummer [*]. There are certain epidemics, therefore, which have their specific and respective ranges of heat, on either side of which they cannot exist.

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* See Appendix.

There is still another circumstance, which limits the prevalence of the yellow fever. It has never been known to prevail, but where the *effluvia* of the living human body existed in a certain degree of concentration. The British armaments sent to the West Indies, have always suffered most, when there was the greatest number on any one spot, by which I mean, that the sickness and mortality were in this case beyond the simple proportion of the number of troops. I have remarked, in my work on the diseases of seamen, that this epidemic was most apt to appear in the crews of crowded ships, bringing febrile infection from England or America; and that it was more frequently prevalent in ships of the line, especially if not clean or well-aired, than in frigates or other smaller vessels. The name given it by Sauvages and Cullen, of *Typhus icterodes*, seems therefore very proper.

There is another very striking fact in proof of this observation. It has never been known to spread into the country, among villages and single houses. As all the towns in the colonies are sea-ports, and as this disease prevails chiefly among men recently come from sea, it is called by the French *Fievre de Matelot*, as well as *Maladie de Siam*. I met with an eminent practitioner from the inland part of St Christopher's, who had never seen this fever till he came to St Eustatius, while our fleet lay there in 1781. It is remarked, by Dr Linings of South Carolina, that though persons from the country occasionally caught it in the town, and carried it to their homes, where they were confined with it, yet they never communicated it to their families or neighbours [†]. The same remark has been made, when it prevailed in Philadelphia, New York, and other towns of North America. In 1800 [‡], it was confined to Cadiz, Seville, Xeres,

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[*] The Christian inhabitants come out of their confinement on that day, with impunity. Their confidence is not founded on the observation of this as a natural fact, but on the superstitious belief that, on St John's day, (the 24th of June), an angel is sent by St John, who commands the pestilence to cease, by virtue of dropping something into the Nile. I met with this in a work of Mr Antis's, in MS. which I understand has since been published.

[†] Something analogous to this has been observed in the jail-fever. When so many of the judges, jury, and auditory, were seized with this fever, caught at the sessions of the Old Bailey, in the year 1750, they did not communicate it to their families and attendants.

[‡] See the Gazette of Barcelona, quoted in the Annals of Medicine of Edinburgh, Vol. I. lustr. 2.

and other towns in Andalusia. It bears some resemblance, in this respect, to the plague, the infection of which has a great predeliction to the crowded and ill-aired parts of a town, on its first breaking out; but, in its after progress, it spares no quarter of the town, nor even the smallest villages, in the career of its devastation *.

The prevalence of the yellow fever being limited by a determined range of atmospheric heat, and also by a certain degree of purity of air, many people of the best understandings, who either did not know, or had not maturely considered, the whole facts, have contended, that it is not of an infectious nature. The doubts respecting this are founded on arguments similar to what have been employed in support of the paradoxical opinion entertained by some authors†, even of our own times, that the plague itself is not infectious. The infection of both may be aptly compared to the seeds of vegetables, or the eggs of animals, which require a nice concurrence of certain degrees of heat, moisture, rest, nutriment, &c. to animate them. Infectious matter has, by a very appropriate metaphor, been termed the *seeds* of the disease; and, by a similar propriety of expression, it has been said, that a certain *nidus* is necessary to give it effect. The *nidus* in plague is a certain range of atmospheric heat, which is a requisite *sine qua non*; and a certain concentration and corruption of animal *effluvia*, which is not so indispensable, but which greatly facilitates the catching and propagation of it‡. The *nidus* of the yellow fever is also a given range of atmospheric heat, and a certain concentration and corruption of animal *effluvia*, both equally indispensable. It would be too tedious to enumerate the various proofs, derived from my own observation, and the testimony of others, in proof of the infectious nature of yellow fever, I shall content myself with citing one, taken from my letter to Mr King, Minister of the States of America to this Court, who applied to me, on this subject, in the year 1798. On the 16th of May 1795, the Thetis and Hussar frigates captured two French armed ships from Guadaloupe, on the coast of America. One of these had on board some men ill of the yellow fever; and, out of fourteen hands, sent from the Hussar to navigate and take care of her, nine died of this fever before she reached Halifax, on the 28th of the same month, and the five survivors were sent to the hospital, sick of the same distemper. Part of the prisoners were sent on board of the Hussar; and, though care was taken to select those seemingly in perfect health, the disease spread rapidly in that ship, so that near one third of the whole crew was more or less affected by it.

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* The great diversity in the operation of different species of infection, might have been farther illustrated by the scarlet fever. This malignant disorder can almost always be traced to crowded schools and boarding-houses for the youth of either sex, but the circumstance most peculiar to it is, that under the age of puberty, very few who are exposed to it escape it, while very few adults are susceptible of it.

† The most eminent of these was the late Dr Stoll, of Vienna.

‡ There is a striking proof of this in the history of the plague of London, in which it is observed, that it did not break out first in the neighbourhood of the wharves and warehouses where it was imported, but in St Giles in the Fields, where the greatest filth and crowding prevailed. And Lord Clarendon observes, in the history of his own life, that when he returned with the king and court to London, after the cessation of the plague, he missed very few of the better sort of people, the mortality having fallen chiefly on the indigent. From the immense increase of commerce, London must have been more exposed to imported infection since the last plague, than at any former period; and the absence of it can only be accounted for, by the great fire of 1666, and the great improvements in cleanliness and ventilation.

It is now, therefore, manifest, that different species of infection are regulated by different laws. The small-pox propagates itself in all seasons, climates, and situations. The plague cannot exert its virulence, but under a range of heat above the 60th, and below the 80th degree of Fahrenheit's thermometer. The yellow fever never spreads but under still higher degrees of heat, and in situations where the air is contaminated with human *effluvia:* and the practical inference is, that there is no hazard of its becoming epidemic in the north of Europe.

In tracing the history of this malady, the first mention I find made of it is by Pere Labat, who resided in Martinique in the end of the 17th century, where it obtained the name of *Maladie de Siam.* He represents it as very fatal to Europeans, particularly such as were new comers, which has been the case ever since. It appears, from the accounts we have, that it was not very prevalent in that part of the world till about the year 1729 or 1730. It was then, for the first time, epidemic in Carthagena in South America, where it received the name of *Vomito Prieto,* or Black Vomit, this being one of its most distinguishing symptoms. The authors * who record this, say, that though there had been violent and fatal fevers before that time, they were quite different from this. Dr Warren, who practised in Barbadoes, and wrote on this disease, says that it first appeared in that island about this time, or a very few years before. The first notice we have of its appearance in North America, was at Charlestown in South Carolina in 1732, where it again appeared in 1739, 1745, and 1748. It was first known in Philadelphia in 1762, and did not again appear there till 1792, when great numbers of the French emigrants

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* See Prevost's Collection of Voyages, Vol. XIII. Besides this anonymous author, we have the authority of Clavigero, a very accurate Spanish historian, who coincides exactly in the same account.

emigrants took refuge here. It has since been no less than three times epidemic in this place, as well as in New York and other towns of North America, but never except in the hottest season of the year, for it never failed to disappear in the winter. It would appear that this contagion is rendered active at one time, and not at another, by its importation concurring with certain casual circumstances, such as the extraordinary heats of particular years, and the greater degree of crowding and filth at certain times, and at certain places. When it appeared in 1804, at Gibraltar, the autumnal heats were greater than they had been known or remembered *. The same was observed in England in the month of September of that year †.

This leads us to inquire into its introduction and progress in Europe.

It first shewed itself on this side of the Atlantic at Cadiz, in 1764. It did not appear there again till 1800. A vessel from the West Indies arrived there in August of that year, on board of which some persons had died of the yellow fever on the passage; and after her arrival, the whole crew, passengers, and pilot, were put on shore, and died of it; and the contagion which spread, with such desolating effects, over this and some other neighbouring towns, was traced to this source.

The next occasion on which it appeared, was at Malaga, in the year 1803. I was informed by Mr Larrea, then Consul-general of Spain, who, being nearly related to the Governor of Malaga, possessed the most accurate information, that it was brought there by a French ship from the West Indies. Upon her arrival at that port, all intercourse was interdicted; but, by the interposition of the French Minister at the Court of Madrid, orders were sent to permit persons and goods to be landed. After disappearing here in the winter, it reappeared the summer following, which is the only instance I have met with, on record, of its prevailing two years consecutively in a temperate climate.

It was in the year 1804 that it appeared at Gibraltar, the infection

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* It is a question of some difficulty to determine, from what cause it arises that the climate of the West Indies is so much more subject to malignant fevers, than countries apparently in the same situation, in point of heat, moisture, &c. in the eastern quarter of the globe. Is it, that, from its greater proximity to Europe, it is more exposed to the importation of what is called the typhous, jail, or ship, fever infections, for we have seen that these fevers are in proportion to the recent arrivals from Europe? Or, is it that the contaminated *effluvia*, generated in the middle passage, by the importation of negroes, has kept up a stock of the like infection? If so, an advantage will arise from the abolition of that trade, which has not before been adverted to.

† During a great part of this month, the thermometer was in England as high as it commonly is in the greatest heats of July.

fection being no doubt derived from Malaga. It also spread this year to several ports of the Mediterranean, as far as the borders of Valentia, and on the ocean, as far as St Lucar *. These facts afford at once proofs of its contagious nature, and of the influence of that contagion being limited by climate and season. The identity of the disorder has been ascertained at Cadiz, by the description of it in the gazette of Madrid; and at Malaga, by the description of Dr Arejula, commissioned by the Spanish government to investigate it; and at Gibraltar, by the accounts sent from thence by the medical attendants of the army †. It may be further remarked, as a matter, both of importance and curiosity, that those individuals of the garrison who had passed through the disease in the West Indies, were not affected by it at Gibraltar. The most distinguishing symptoms of the yellow fever are, a yellowness of the skin, the vomiting of a dark coloured fluid, its generally proving fatal from the third to the seventh day, and marks of inflammation of the stomach, upon inspection after death.

This epidemic has proved more general and mortal in those towns of North America and Europe which have been affected by it, than it has commonly been observed to be in the West Indies; and this may be used as an argument against its identity. But it is to be remarked, that a great proportion of the population of the West Indies consists either of blacks and people of colour, who are but little susceptible of it, or of white people who have been inured to the climate; whereas the whole people of North America and Europe, their constitutions having been habituated to the cold or temperate weather of the preceding part of the year, are in the situation of those new comers in the West Indies, who are so peculiarly susceptible of it.

It has been alleged, by some authors, that the yellow fever is produced by the same marshy and putrid exhalations which produce the intermittent and remittent fevers, and that it is only a variety of the latter. But the remitting fevers differ from it in some essential symptoms; and the yellow fever has been known to arise, both in ships and on shore, where men were not exposed to any corrupted exhalations of the soil, nor to pernicious vapours of any kind, except such as proceed from the contaminated effluvia of the living human body.

In short, all the difficulties respecting the contagious nature of this disorder are got over, by considering that the poision by which it

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* Since this letter was written, it has been ascertained, that it appeared at the same time, and with all its characteristic symptoms, at Leghorn.

† The identity of it at Leghorn is fully proved, by the description of Dr Palloni. See Medical and Surgical Journal of Edinburgh, January 1805.

it is propagated, in common with other species of infectious matter, takes effect in consequence of a delicate and casual concurrence of incidents, compounded of internal predisposition, and external circumstances, and if this were not the case, every infectious disorder would spread to the whole of mankind, and the more malignant epidemics would extinguish the human race.

From the facts which we are in possession of, we have infered, that the north of Europe is not susceptible of this disorder. But with regard to the south of Europe, and North America, rigid precautionary measures are adviseable, respecting the persons and clothes of those who are, or have been, affected by it. I restrict the precautions to persons and clothes, for it does not seem to be capable of being conveyed by merchandize. Though it has prevailed in the West Indies for a hundred years, and though there has been a frequent and uninterrupted intercourse of trade, between these islands and North America, we have seen that, for thirty years together, Philadelphia, and other towns of that continent, have been exempt from it. Dr Lind, in his work on the diseases of hot climates, mentions, on the authority of a witness, and a sufferer who survived the fever, that it was carried to Philadelphia by the clothes of a native of that place, which had been returned to his family, after he had died of this fever at Barbadoes; and we have seen how it was carried thither thirty years afterwards, by French emigrants. The importation of it to Cadiz, in 1800, was also traced to the persons of individuals, as has been already mentioned. It is obvious, from all these considerations, how expedient it must be to establish a rigorous quarantine in those parts where the climate is susceptible of it, with regard to vessels arriving from countries where this disease prevails. This quarantine, however, need not extend to merchandize, but only to personal intercourse, the bringing on shore foul linen, or other articles of clothing which have been worn by infected persons. Another preventive means, of the utmost importance, consists in paying the strictest attention to ventilation and cleanliness of towns, particularly by the universal introduction of common sewers.

A large field is open for speculation, with regard to the origin and nature of this contagion. It would, for instance, be a matter of curious inquiry, to ascertain upon what principle the susceptibility depending on atmospheric heat, and upon foul air, is founded, whether these act by some influence on the functions of life, whereby the body is rendered sensible to the impressions of the morbid virus, or whether they act merely as vehicles for facilitating the transmission of it. I have declined all such matters of speculative curiosity, and have confined myself to a dry induction of facts, such as is practically applicable to the benefit of society. And though a formal answer has not been given to the various questions stated in the *conspectus* of the Supreme College, enough, I apprehend, has been ascertained for all practical purposes. It is not my object to offer myself as a candidate for the prize* which his Majesty's munificence and benevolence has held out, but to do my utmost, in affording the most speedy and satisfactory information on the subject in question. I have the honour to be, your Excellency's most faithful, &c.

GILBERT BLANE.

*London*, 28*th September* 1805.

## APPENDIX.

*Conspectus quaestionis, a Collegio supremo medico Berolinensi, modum contagii febris sic dictae flavae spectantis, propositae.*

Febrem flavam illis jure adnumerari morbis, quibus peculiare est ab aegris ad sanos ope contagii transferri, experientia sat superque edocti fuimus.

Patet inde, contagiosum virus huic morbo proprium existere, quod ex illo gignitur et causam propagationis illius continet.

Quo vero modo contagium proseminetur nobis attamen hactenus non satis innotuit, sed ita latet, ut in dubio haereamus; an aegrorum contactus solus contagionem febris flavae producat? vel an virus per atmospheram transferatur et tali modo sanos contaminare valeat? vel tandem: an miasma febris flavae, pestis miasmatis ad instar, corporibus omnigenis adhaereat et illos ita inficiat, ut eorum contrectatio ad producendum morbum istum contagiosum, sufficiat?

Ultimum hocce problema solvere et dubiam difficultatem evidenter enodare, ideo maximi est momenti, quia cautelarum ad avertendam contagionem et compedum commercio imponendarum selectus, praecipue ab hac pendet explicatione.

Hactenus in enucleanda hac quaestione, medici attentionem ac solertiam non sufficienter adhibuisse videntur, et hinc potentissimus Borussorum rex consultum duxit, Collegio medico supremo Berolinensi injungere, ut viris arte peritis, quibus non defuit occasio epidemiam febris flavae observandi ac e propinquo contemplandi, praemium offerret ac proponeret circa hanc adhuc dubiam materiam; quo ad perscrutandas et illustrandas quaestiones propositas adducerentur, ita ut illorum labore, repetitisque experimentis ac factorum sedula investigatione dubia hac de re in futurum prorsus evanescant.

Hoc jussu, supremum Collegium medicum Borussicum, artis peritos quibus hac de re observationes instituere et experimenta facere licuit, ut huic labori operam navent, rogat ac invitat.

I.

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* Dr Blane, having declined being a candidate for the prize, his Prussian Majesty presented him with a gold coronation medal, accompanied with a letter of acknowledgment and compliment.

I.

Danturne facta minime dubia et experimenta fide digna, quibus concludere liceat, maisma febris sic dictae flavae, corporibus exanimis et substantiis omnigenis ita inhaerere posse, ut eo contagium hominibus communicari possit, qui contactui vel contrectationi eorum sese exponunt? Potestne ergo eo effici ut contagium febris istius hac via ad regiones longinquas transferatur et exitiosum ibi producat morbum?

II.

Si hic propagationis ac contagii modus admittitur; quaeritur: quaenam sint vel facta vel experimenta quibus haec opinio verosimilis aut certa reddatur? In casu vero opposito, opinio contraria rationibus ac factis itidem confirmanda erit.

III.

Licetne ut rem verosimilem, immo fide dignam admittere, vel absque dubio confirmare, quod virus quo febris flava proseminatur productum ac progeneratio ipsius morbi sit? Inhaeretne hoc maisma peculiariter uni vel alteri excreto animali et cuinam?

IV.

Patetne adeo natura et chemica mixtio hujus miasmatis, sic ut ex hac notione antidotum qualecunque, vel agens chemicum ad subigendum vel extinguendum virus non impar innotescat? Danturne alia prophylactica remedia contra hanc infectionem? Quaenam sunt illa? suntne in eorum numero quaedam, quorum virtus efficax manifesta ac comprobata sit? quanam utendum est methodo ut illorum ope substantiae contaminatae et inquinatae hoc miasmate plenarie et ita liberentur, ut contagionem porro inferre et morbi exitiosi semina propagare non amplius valeant?

V.

Licetne temporis spatium statuere, ultra quod, virus hocce virtutem suam contagiosam et proprietates suas nocivas, exserere nequeat? Danturne praefinitum tempus, quo elapso, substantiae inquinatae ad propagandum morbum non amplius idoneae sunt et quo praeterito contagium, ut penitus extinctum haberi possit?

VI.

Licetne discrimen inter corpora ad suscipiendum virus apta stabilire et inter illa differentiam admittere prout majorem vel minorem proclivitatem exserunt ad suscipiendum aut ad conservandum aut in sinu suo fovendum hoc miasma? Exstantne corpora facultate miasma hocce suscipiendi omnino expertia, dum alia huic exitiosae impraegnationi facillime subjiciuntur et quaenam sunt utraque?

(Hic tabula praecipuarum mercium subjungenda foret, in qua respectu hujus quaestionis, hae merces in diversas classes distribuendae essent.)

VII.

Quaeritur porro: an morbus, qui sub nomine febris flavae in America septentrionali et ad littora maritima Hispaniae nec non Ligurni grassatus est, unus idemque ubicunque fuerit morbus? an vero pro regionum diversitate, discrimen qualecunque quoad ortum, decursum et symptomata morbi, cladem quam sparsit et contagionis progressus, statuere liceat? ac quibusnam argumentis stabiliri haec opinio potest?

VIII.

### VIII.

Estne denique febris flava morbus endemicus littoris? aut licuitne illum procul ab oris maritimis observare? videturne haec distantia a mare in morbi decursu ejusque propagatione aliquid immutasse?

Potentissimi Borussorum regis jussu praemium

Ducentorum ducatorum aureorum

illi pollicemur, qui quaestionibus propositis apprime respondebit, dubia illustrabit, ac experimenta sua factis indubitatis fulcire conatus erit.

Ad victorem propius accedenti

Centum ducati aurei

praemio erunt.

Commentationes latino, gallico, vel germanico idiomate distincte conscriptae et sequente inscriptione munitae:

(Au Collège supérieur de médecine et de santé de sa Majesté le Roi de Prusse, à Berlin)

ante calendas Januarii 1807 transmitti debent. Tardius venientes a certamine excludentur.

Auctores invitantur ut quisque nomen, munus et domicilium suum schedula sigillo obsignata includant, simulque hanc schedulam extrinsecus inscriptione qualibet insigniant quae eadem esse debat ac in fronte libelli. Collegium medicum supremum Borussicum de acceptis elaborationibus aequissimum faciet judicium, illique palmam decernet, quae facta extra omnem dubitationis aleam posita simulque enodationes utiliores complectetur.

Propius accedenti secundum abjudicabitur praemium. Schedulae signatae nomina aliorum competitorum continentes, illaesis sigillis, comburentur.

Berolini die 17. Aprilis anni 1805.

Collegium supremum medicum et sanitatis Borussicum.

## II.

*Further Observations on the Egyptian Ophthalmia, as it affected the 2d Battalion of the 52d Regiment.* In a letter from GEORGE PEACH, Esq. Surgeon to the 2d Battalion 52d Regiment, to JAMES M'GREGOR, M. D. Fellow of the Royal College of Physicians, Edinburgh, and Deputy Inspector-General of Hospitals, Portsmouth.

I now forward the conclusion of Mr Peach's history of ophthalmia in the 52d regiment. It is interesting, as it exhibits

a detail of the new disease in one of the regiments where it has prevailed the most; and it is satisfactory, as shewing that we have at length attained the knowledge and means of extinguishing a new contagion. The cure of intermittents by bark, and of syphilis by mercury, is not more certain than the successful treatment of the Egyptian ophthalmia by the method here recommended by Mr Peach.

In this quarter we have had much of the disease of late; it prevailed much in the 1st foot, or Scots Royals, in the 54th and 89th regiments, and in the 8th Veteran Battalion, all under my immediate superintendence. It was at one time my intention to have sent you a general account of the ophthalmia in these corps, but I now think of appending this account of ophthalmia, as it has appeared in Britain since the return of our army from Egypt, to a new edition of my Sketches of the Expedition from India to Egypt.

*Portsmouth*, 11*th June* 1807.

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Dear Sir,

I feel much pleasure in complying with your wishes, to conclude the history of the ophthalmia of the 2d battalion 52d regiment, particularly as it will give me an opportunity of correcting the errors which appeared in my letter in the Edinburgh Journal of January, should you think the present communication worth laying before the public. How the disease was called the epidemic ophthalmia I know not, this never having been my opinion of the nature of the disease, nor do I believe it is yours. On the contrary, I repeat my opinion, "that I consider the ophthalmia in question to be the very same as that which appeared in our army in Egypt." It was also said in my letter, the other regiments with us in Hythe likewise suffered considerably; the fact is, the 43d regiment never had the Egyptian ophthalmia till they were quartered at Brabourn Lees in July 1806; they had frequently had a mild epidemic ophthalmia during the summer, as had also the 1st battalion 52d regiment at Shorncliff. Speaking of the ophthalmia of the 20th regiment,—read 28th regiment.

It must always afford particular satisfaction to a professional man, when he has adopted any particular mode of treatment, or deviated in any degree from the practice recommended by authors, that the more extensive is his practice in the remedy, by so much the more has he reason to adopt it. I have already given you an account of the ophthalmia as it appeared in the 2d battalion 52d regiment, from July 1805 to July 1806; in the present letter I purport giving you a statement of the disease, with the mode of treatment, to May 1807. For the admissions each month, I shall refer you to the report of admission of cases.

The disease has continued with nearly the same symptoms and unabated violence till the 23d of December 1807, when the battalion was removed from Riding Street Barracks to Shorncliff; since that time the disease has, in most cases, assumed a much more mild form. Previous to this period, large venesection was universally adopted on the first attack of the disease, if the pain was severe, or the sensation of sand, &c. in the eye complained of, and with the most decided advantage. I cannot refrain from mentioning the good effects of this practice on the 1st battalion 43d regiment, at Brabourn Lees. I accidentally paid them a visit subsequent to the night of the whole of their cases becoming extremely violent; if possible, these patients suffered greater pain, and the disease was more acute than I had before witnessed it. I explained to Mr Lind the surgeon, the mode of treatment I wished him to adopt; that he was not to be guided by the quantity of blood to be abstracted, but to produce syncope in all, and as often as he found recurrence of pain, so often must he have recourse to the lancet: he readily consented to my proposal, and the next morning each man acknowledged the ease and comfort that had been afforded him. At this time the cases of ophthalmia in the 43d regiment amounted to 169; the disease has since continued, though in a more mild form; and the total number of cases, including relapses, amount to 619: they have only lost 19 men blind of both eyes, and 32 of one eye. A great many of these men were in the second stage of the disease when I saw them; and it is Surgeon Lind's opinion, that many of the cases had lost their sight, or the eye was much injured, previous to my seeing them. When venesection is early had recourse to, it is rarely the second stage of the disease is to be met with. The success of this mode of treatment in the 43d regiment is so apparent, that I was once asked by a military officer why the 52d had lost so many eyes and the 43d so few? To which I answered, that the advantages of copious venesection were not known when we had the disease in the most malignant form, that the 43d regiment was a proof of the superior efficacy of venesection, and the antiphlogistic regimen, in the cure of ophthalmia. I had one case of violent ophthalmia in a man of the 62d regiment, whom I bled to 77½ ounces. I have mentioned this circumstance, as it entirely overcame the disease; nor had it any pernicious, or even the slightest ill effect on his general health. Some surgeons can inform you of their having had numerous cases of ophthalmia in their regiment, without having lost a single eye, though venesection was never adopted.

I

I am aware that ophthalmia has appeared at Shorncliff and other quarters, for many summers, without any ill consequence; but, in the ophthalmia of Egypt, which I have been so much engaged in for two years, during which time I have had, in the 52d regiment, 1341 cases under my care, I may be allowed to decide on venesection being the sovereign remedy for this disease: it is not because I have not had recourse to other means; there are, indeed, few remedies I have not resorted to, and given up as useless or inefficacious, before Dr Vetch and myself had recourse to venesection. I now wish to point out some particular forms of the disease, when venesection will not produce any good effects. I have already considered it an ultimatum, when there is the sensation of sand, or any foreign body in the eyes, or a discharge of hot tears, that venesection alone is to be depended upon. On the contrary, when the vessels on the albuginea are very numerous, and the eye extremely red (almost as red as scarlet cloth), and feels only stiff and weak, *but not at all painful*, in this state I never saw any advantage derived from bleeding; indeed, in some instances, I think I have seen sloughing of the adnata produced by it, at least this has been the termination of the disease. In many of the mild cases we have had since we came to Shorncliff, I have generally used either the aq. aluminis or aq. sapphirina, dropt into the eye, and a dose of salts, with the best effects; the eye has quickly recovered its healthy state. Since we came to Shorncliff, we have had only 13 *recent* cases of ophthalmia, and of this number only four of them required phlebotomy and the whole of them are now quite well.

I have, indeed, particular reason to consider venesection nearly an infallible remedy, as I find, on examining my case-book, we have scarcely lost an eye, since the advantages of the present mode of treatment were known to us, however violent the disease when it came on in the *usual acute form*. It is the insidious form of the disease, when the eye is *not painful*, and when, as I have previously said, venesection will not relieve, from which I apprehend the most danger. I am sorry to say, I have lately met with a case of this kind, in a volunteer that joined the regiment from Ireland (Pat. M'Canna), who has lost one eye. The eye looked red and weak, and he said it felt stiff, but he had not any pain in it, except for about two hours one night, after he was in bed. The next morning, the eye was quite easy: but the cornea ruptured in the course of the next day, and is now quite opaque.

This is not the usual termination of the variety of ophthalmia I allude to: in most cases, the adnata is much swollen, sometimes so much so as to conceal the cornea, and becomes ulcerated; when the swelling subsides the cornea is opaque, and of a white colour.

I have now two cases of this kind, John Gribbon and Patrick M'Henry; in the latter, the thickening of the cornea has nearly disappeared, and a speck only remains; at present his sight is very imperfect, but I make no doubt he will shortly quite recover.

In the treatment of specks on the cornea, or when there is a thickening of that coat, which renders it less transparent, I have been very successful in removing it, by the application of the argent. nitrat. The vessels supplying the opacity should be touched every second or third day, according to the effect produced. It causes but little inflammation or pain; and, in many instances, the cornea has been perfectly restored to a healthy state. It will be observed, that since our arrival at Shorncliff, very few recent cases have occurred, and these so mild, that in only four was it found necessary to perform venesection. The means by which this happy change has been effected may be thought a matter of some importance, as I am informed the disease still exists, to a great degree, in other quarters. The volunteers from the Irish militia, when they came to England, were not permitted to join their respective regiments in Kent, where the ophthalmia had prevailed. Ashford was made a depot for them; those of the 2d battalion 52d regiment were soon after removed to Shorncliff; at this period, only two cases of ophthalmia had appeared amongst them. A few weeks afterwards, the battalion joined them, leaving the worst cases of ophthalmia at Riding Street.

To prevent the volunteers from receiving the infection (for hitherto scarcely had a recruit joined us but he was soon attacked with the disease), I proposed that they should still be kept together, the healthy or duty men in another part of the barracks, and that those, who had lately had the disease, should mess and live together, separated from the battalion; and that the regiment should be paraded four times in a day, under the inspection of an officer of a company, to wash their eyes. This arrangement is still continued in the battalion, and to the promptness and punctuality by which these means have been enforced, on the part of the officers, I have to ascribe the happy effect. No one, I believe, at present, has a doubt of the disease being communicated by actual contact, and, I believe, by that alone; if so, it must be very evident, that cleanliness is the surest means of eradicating the evil. In a battalion that has been for so long a time infected as the 2d battalion 52d regiment, it cannot be expected the disease can be instantly dissipated by these or any other means; but I have no doubt, by a steady perseverance, we shall in the end succeed. The strength of the battalion is 812, a great increase since last year; of course, from having a greater number of new subjects, it might be expected we should have an increase of recent cases, were not the disease losing ground.

The regiment is duly examined by a medical officer; a slight appearance of ophthalmia creates alarm, and the case is immediately separated from the healthy. I have heard it said large blood-letting must produce great injury to the constitution; that frequently dropsy and general debility ensue:—In the 52d and 43d, not a single case of ascites has occurred, though, I believe, no where has the system been carried to a greater extent.

*Report of Cases of Ophthalmia, from the* 19*th of July* 1806 *to May* 23*d* 1807.

| | *At the Close of last Return.* | *Admit.* | *Tot.* | *Dis.* | *At Maidston.* | *Tot.* | |
|---|---|---|---|---|---|---|---|
| In Hospital 19th July | 71 | 58 | 129 | 58 | 30 | 101 | 275 |
| In the Convalescent Rooms | 163 | 34 | 197 | 23 | | 174 | |
| To the 23d August | 101 | 99 | 200 | 129 | | 71 | 229 |
| In the Convalescent Rooms | 174 | 21 | 195 | 37 | | 158 | |
| To the 20th September | 71 | 30 | 101 | 36 | | 65 | 198 |
| In the Convalescent Rooms | 158 | 37 | 195 | 62 | | 133 | |
| To the 18th October | 65 | 42 | 107 | 40 | | 67 | 194 |
| In the Convalescent Rooms | 133 | 38 | 171 | 44 | | 127 | |
| To the 22d November | 67 | 40 | 107 | 50 | | 57 | 227 |
| In the Convalescent Rooms | 127 | 54 | 181 | 11 | | 170 | |
| To the 20th Dec. 1806 | 57 | 29 | 86 | 28 | | 58 | 236 |
| In the Convalescent Rooms | 170 | 12 | 182 | 4 | | 178 | |
| To the 17th Jan. at Riding Street | 58 | 19 | 77 | 29 | | 48 | 117 |
| In the Convalescent Rooms | 178 | 29 | 207 | 138 | | 69 | |
| To the 18th Jan. at Shorncliff Hospital | | 21 | 21 | 7 | | 14 | |
| To the 21st February | 14 | 8 | 22 | 15 | | 7 | |
| To the 21st March | 7 | 5 | 12 | 7 | | 5 | |
| To the 18th April | 5 | 3 | 8 | 4 | | 4 | |
| To the 23d of May | 4 | 11 | 15 | 10 | | 5 | |
| | At Maidstone | 30 | | | | | |
| | Total | 650 | | | | | |

Shorncliff Barracks.
10*th June* 1807.

III.

## III.

## *A Case of Scirrhous Ulceration of the Pharynx and Œsophagus.* By GEORGE KITSON, Member of the Royal College of Surgeons, London.

ELIZABETH RICKETS, a delicate woman, 26 years of age, was attacked, about the middle of May 1806, with a soreness of the throat, for which she used various medicines without advantage. No diseased appearance could be discovered by examination. The tonsils were not enlarged, nor did the fauces appear inflamed. She complained of a pricking pain, which, she said, was increased by pressing the larynx backwards. She was not conscious of having swallowed any thing, and could in no manner account for the symptoms. About the 16th of June, she began to experience a difficulty in swallowing. Nothing could be seen in the throat; but, on accurately examining it externally, I discovered that the thyroid gland was slightly enlarged.

June 18th.—The difficulty of swallowing was increased. Fluids were taken by tea-spoonfuls, and swallowed with considerable effort. She took the fat of meat and bacon with more ease than any other thing.

20th.—I endeavoured to pass a middle-sized urethral bougie into the œsophagus, but could not succeed. Repeated attempts were afterwards made to pass bougies, catheters, &c. which proved fruitless. The case being considered incurable, she was directed, on the 27th, to rub camphorated mercurial ointment into the neck; and, the following week, she accompanied her mistress to Oxford, where she consulted an eminent surgeon, who, not being able to pass any thing into the œsophagus, told her he could be of no service to her.

She returned to Bath, and on the 7th of October I again saw her. She was emaciated; had great difficulty in swallowing any thing; but did not suffer from hunger, and but little from thirst. Her voice was hoarse; and her respiration so much affected, that she could not lie down in bed, walk up stairs, or move quickly. The difficulty of breathing had come on about a fortnight before. The thyroid gland was rather more enlarged, but it might still have escaped the notice of a casual observer. Her fellow servant said she swallowed with as much ease then, as she did before she went to Oxford; and that the quantity taken in the day, (fluids and solids), did not exceed a tea-cupful: fluids were taken with the greatest difficulty. For three months she had taken nothing but bread soaked in milk or tea, a little fat bacon, and now and then an egg beat up with sugar and milk.

She had gradually become thinner, but so little had her strength failed, that, till the last fortnight (when the difficulty of breathing came on) she had continued her work as a house-maid, and had occasionally washed. On the 20th of September, she walked eight miles to see her friends, and returned on the 21st. She was free from pain, and suffered only from the difficulty of respiration; her spirits were good. About twelve o'clock P. M. I was desired to see her, and found her sitting up in bed, supported by pillows, labouring for breath; her pulse irregular. She was still free from pain, but complained of being faint; and was unable to take any thing, or to lie down.

Oct. 8th, She breathed better, and was able to lie, supported by three pillows; pulse irregular; she had taken very little; the respiration became more difficult soon after I left her; and at one o'clock she died; retaining her intellectual faculties to the last.

Twenty-four hours after death, I examined the parts, and found the thyroid gland enlarged to twice its usual size, and of a firmer texture than natural. The whole circumference of the inferior part of the pharynx, and superior part of the œsophagus, were indurated and ulcerated, so as to expose the posterior part of the larynx. The ulceration extended on the left side, from the superior corner of the thyroid cartilage, about two inches downwards; on the right side it did not commence so high, nor was it so deep as on the left. There was no opening into the larynx or trachea; and it did not appear, that the matter secreted by the ulcer, could get into the glottis. The glottis was swollen, and nearly closed by the pressure of the surrounding parts, and was obstructed by a gelatinous substance. The epiglottis was thickened and inflamed. The inferior part of the œsophagus, and the trachea, were perfectly free from disease. The viscera of the chest had a healthy appearance. On opening the cavity of the abdomen, the omentum was found void of fat. The stomach was contracted and empty; its villous coat spotted in different parts with grumous blood, which was easily washed off, when the membrane appeared healthy. A portion of the ilium, about two feet, was much discoloured. The large intestines were contracted; and portions of indurated fæces were found in the colon. The glandular viscera were not diseased.

*Bath, 22d May* 1807.

Thomas Andrews, whose case is related Vol. II. p. 319, has had no return of the disease. Sensation began to return in the forehead early in August, and gradually became perfect.

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## IV.

## *Case of Luxation of the Femur, from an apparently slight cause.* By C. S.

William Marks, æt. 23, of a strong muscular habit, in walking quickly along the deck, slipped his foot, and in making an instant and violent effort to recover himself, his foot stopping (perhaps by meeting some obstruction) at the same time, his knee was forcibly bent inwards; at the same moment, as he expresses it, he gave himself a violent wrench at the top of the thigh, the reacting force, as appeared afterwards, having forced the head of the femoris out of the acetabulum upwards and backwards. He gave a violent shriek, and fell on his left side, rather backwards however, defending himself with his left hand in falling.

I was not present when it happened, but the above is the most accurate statement of the case I can form, from repeatedly questioning himself, and from the information of others present.

When called, I found him sitting on his breech, inclining to the right side, with his knees drawn up. I attempted to alter his position to examine his limbs, but he begged in the most earnest manner not to be disturbed, and complained exquisitely of pain in the left knee-joint and hip. It being rather dark, after a short examination, in which, however, I did not discover the injury, I ordered him to be carried below to his hammock. I then saw him, and found him much in the same posture, and complaining as before; the left hip was swelled and deformed, and the knee slightly swelled. I found it impossible to examine now, the place being much crowded, but concluded it was a severe strain. I therefore took 18 ounces of blood from his arm, and gave him an anodyne draught, and left him. Next morning he informed me he had not slept any, and had been in much pain all night. I then proceeded to examination, and, to my great surprise, discovered a luxation of the left femur upwards and backwards plainly marked; the leg shorter; the knee and toes turned inwards; the thigh not to be rolled on its axis, and the attempt attended with much pain, &c. &c. After maturely considering the situation of parts, I determined on the following means for reduction, which succeeded most happily:

The patient was laid on a matrass, on the right side, a folded sheet placed between his thighs, and fixed to an iron stanchion; a piece of linen about four yards in length, folded and applied, as shewn by Mr Elles, was fixed about the knee, and the ends given to three men who were to make the extension. I then bent the knee to a right angle, and gave it to an assistant, with directions to make a gentle rotatory motion when directed. I kneeled behind the patient to direct the head of the bone; the extension was then begun, gradually in a line with the body; the rotatory motion made; while I pushed the head of the bone forwards and downwards, which gave way in that direction, and stopped with noise into the acetabulum.

It may be necessary to remark, that the ship had little or no motion at the time of the accident, indeed none in the direction in which he slipped; and, that he had never suffered the like before.

*Plymouth.*

## V.

## *Case of Popliteal Aneurism.* By James Dawson, Esq. Surgeon, Liverpool.

The alteration which Mr Abernethy has made in Mr Hunter's operation for popliteal aneurism, by tying the artery with two ligatures instead of one, and afterwards dividing the vessels between them, has certainly tended to lessen the danger of hæmorrhage at the time the ligature is occasioning ulceration in the coats of the artery; but there is a danger resulting from this practice, against which it is necessary to guard. This observation is made by Mr Astley Cooper; and the danger to which he alludes, is the removal of the ligature from the divided extremities of the artery, by the force of the arterial pulsation. This accident happened to Mr A. Cooper, while his patient was upon the operation table; he was proceeding to dress the wound, after the operation was supposed to have been finished, and saw a stream of blood issuing from the artery, and when the blood was removed by the sponge, one of the ligatures was found detached from the vessel. In a short time afterwards, the other also was forced off, and thus the divided femoral artery was left without a ligature; and unless immediate assistance had been afforded him, the patient must have perished in consequence of hæmorrhage. The same accident occurred to Mr Cline. This gentleman performed the operation for popliteal aneurism in Mr Abernethy's manner, and used extraordinary pains in securing the ligatures, which were placed upon the artery an inch from each other; the artery was then divided, the wound dressed, and the patient put to bed. In three hours a violent hæmorrhage succeeded; one of the dressers happened fortunately to be upon the spot, pressed upon the artery, and sent for Mr Cline, who, on removing the dressings, found the upper ligature lying loose in the wound. He secured the artery by means of a needle and ligature, and the man did well. Mr Henry Cline has proposed to put the needle and thread through the artery after tying the ligature, and then to tie it a second time. Mr A. Cooper was induced to adopt this plan on account of its simplicity, and the security which it promised to afford against similar accidents; but before he practised it on the living body, he ascertained its effects upon the dead subject, and found, that when the ligature was applied in the manner alluded to, he could not, by throwing water into an artery with all his force, disengage the thread from its situation. Mr Ring, jun. had occasion to tie the femoral artery in a case where that vessel was accidentally wounded, and adopted this mode of securing the ligatures. Dr Andrews of Madeira, had a case of popliteal aneurism, for which he operated, and in which he secured the ligatures in the manner alluded to. In Mr Shearley's case, notwithstanding it terminated unfavourably from another cause, the ligatures remained securely on the divided extremities of the vessel, until the usual period of their coming away. (See Medical and Physical Journal for April 1807).

On the 20th of April 1807, the following case of the popliteal aneurism presented itself at the Liverpool Dispensary: Laurence Kyland, aged 54, a porter, came under my care, on account of popliteal aneurism. From the patient's own account it appears, that the swelling and stiffness in his ham were brought on by a blow in that part, about seven months ago. He recollects having felt a slight numbness in his leg at the instant of receiving it; and, upon taking his stocking off at bedtime, and examining about his knee, he perceived a small swelling under it, which he rubbed with a liniment, and, in a day or two afterwards, it gave him no farther concern. He continued his daily labour as usual, but of late found the limb on that side rather fatigued at night. The swelling continued from the period above mentioned, and increased very much within the last three weeks previous to his application at the dispensary. It was then rather painful on pressure; there was some stiffness of the knee, and his leg felt rather numb;

the pulsation in the aneurism was remarkably strong; but there was not much distention about the joint; the tumor was the size of an egg, and circumscribed; the leg was free from œdema.

During the three weeks preceding the operation, the aneurism had extended itself very much beyond its former bounds. There was now great distention around the joint; the ham-strings were upon the stretch; and, during the pulsation of the aneurism, were still more distended; the heads of the gastrocnemius muscle were also raised at each pulsation. As any farther delay seemed improper, the operation was undertaken on Monday the 11th of May. After the tourniquet had been loosely applied to the limb, an incision of about three inches in length was made through the integuments in the middle of the inner part of the thigh, and the sartorius muscle brought into view. This being raised and folded up with the fingers, exposed the fascia which binds down the vessels. A slight incision was made through the fascia, at the lower angle of the wound, and close upon the edge of the triceps muscle, a directory pushed underneath, and the incision enlarged upwards nearly two inches. The artery was now separated from the vein and nerve, and from its own cellular membrane, with the handle of the knife, care being taken not to detach it more extensively than the distance which I intended the ligatures should include. An eye probe, carrying a double ligature, the end of each being armed with a crooked needle, was now passed underneath the artery. The probe being cut away, two ligatures were thus formed; the upper one was tied as high as the detachment of the artery would allow, and the other as low, including between them somewhat more than an inch of the vessel, which was then divided in the interspace. As the artery was in a diseased state, it required a saw-like motion of the crooked bistoury to cut through it. The upper extremity of the divided artery was now laid hold of with the finger and thumb, while the crooked needle was passed through its substance, and near to the ligature, already upon the artery, which was then tied into a second knot; the lower extremity of the artery was secured in the same manner. I may here observe, that the ligatures were not very thick, and care was taken to apply them smoothly and evenly upon the vessel, and with such a degree of force, as I conceived would cut through its internal and middle coats *, so as to fit them for adhesion. The wound was dressed, a

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* In Dr Jones's valuable work, a number of experiments are related, which demonstrate, that the first effects of ligature upon an artery, are a complete division of its internal and middle coats, an apposition of its wounded surfaces, and, it is scarcely necessary to add, an obstruction to the passage of blood through its

a flannel roller put around the limb, and the tourniquet left loosely on. While the assistants were putting the patient to bed, he complained of coldness and numbness in his leg and foot.

In six hours after the operation, there appeared some distention, and an unusual degree of warmth, at the lower part of the thigh. The heat was not measured, but it felt greater than that of the sound knee ; the leg and foot were still cold. Tuesday the 12th. The leg and foot were now warm and perspiring, and the sensation and warmth extended even to the toes ; he had slept four hours, and appeared quite comfortable ; every thing was quiet about the dressings, and in the tumor ; a little oil was gently rubbed on the limb, from the foot upwards, to prevent the stagnation of the blood in the veins, and the dissipation of its own heat ; the foot was covered as before with flannel.

It does not seem necessary to relate the occurrences of each succeeding day ; it may be sufficient to mention, that on the fourth day from that of the operation, I removed the dressings, which were covered with well digested pus ; the discharge was rather abundant : on the sixth day, the wound had united except at the place of the ligatures. As a certain degree of ulceration, and the formation of pus, is the necessary effect of the ligature, great care was taken at each dressing, to prevent the accumulation of matter around the divided extremities of the artery, by compresses of sponge or lint, placed in the neighbourhood of the wound. The discharge gradually abated, and, on the twenty-third day from the operation, both ligatures came away with the dressings ; they had been imbedded in granulations for the preceding five or six days. The tumor and distention in the ham during this period gradually diminished. I had been flattering myself with the idea of my patient's being permitted to get out of bed in a few days more, and had ceased to feel any anxiety about secondary hæmorrhage. At nine o'clock, however, this evening, (23d day), the alarming intelligence was brought to me, that a hæmorrhage from the patient's thigh had taken place. In the course of this evening, contrary to my directions, the patient had got out of bed for a short time, and in a few hours afterwards, a hæmorrhage from the wound ensued. The bleeding had been stopped about fifteen minutes before my arrival. The bleeding had taken place at the time the patient was asleep, and continued several minutes before he received any assistance ; two tea-cupfuls of wine had been given to him before I arrived. He had lost, I suppose, eight or ten ounces of blood ; it was of

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its canal. Mr J. Thompson of Edinburgh, informed Dr Jones of this effect of ligature upon an artery ; and that Monsieur Dessault had first noticed the fact, (See Dr Jones's Work, p. 126).

a dark colour, had flowed slowly, and was suppressed with facility: From these circumstances, I was led to conclude, that the hæmorrhage was of the venous kind. A tourniquet, however, was placed loosely upon the thigh; the dressings were removed without any loss of blood, which could only escape by the openings left by the ligatures, for the integuments in the interspace had united on the sixth day from that of the operation. The pulsations in the trunk of the artery, and in an enlarged branch of the profunda, which took its course on the outside, and to the whole extent of the wound, could all this time be distinctly felt. After having waited nearly an hour, and there being no appearance of bleeding, a graduated compress was applied over the wound, and directions left to trust to pressure upon the wound, in the event of the hæmorrhage returning. On the evening of the 24th day the hæmorrhage recurred a second time. On my arrival, I found the bleeding had ceased, and that he had not lost more than five ounces of blood; but, as I did not consider the patient free from the danger of a return of the hæmorrhage, I resolved to lay the wound open, and act according to circumstances. A directory, to which was previously given a slight curve, was found to pass readily from the upper opening to the lower, which had been left by the ligatures; a bistoury was pushed through the integuments which intervened, and the wound laid open to its original extent. Several lesser coagula were removed, and one of a larger size, which consisted of coagulable lymph, with which there was an irregular longitudinal portion of a blood vessel in intimate contact. After having cleared the wound, and sponged it with warm water, I waited some time; but there was not any appearance of blood, nor could the orifice of any bleeding vessel be discovered, the pulsation of the artery just above, and to the outside of the wound, being all this time remarkably strong. The wound was filled with lint, and a compress secured over it. The man was watched as before, for the first and second night, but every thing remained quiet; and, on the third day, I removed the compress and dressings, which were loosened by the pus with which they were covered. The wound gradually healed, and the patient is now perfectly well.

I do not recollect having met with a case in which the age of the patient exceeded forty: my patient was fifty-four years of age. He had been several years subject to a severe cough, attended with dyspnœa, and at times very copious expectoration. From the time of the operation his general health has not been at all affected. There is now only a small induration to be felt in the ham.

*Mount Pleasant, Liverpool,*
*July* 1807.

VI.

## VI.

### *Biographical Sketch of* SPALLANZANI.

LAZARUS SPALLANZANI was born at Scandiano, in the Duchy of Modena, on the 10th of January 1729. His father practised as an advocate with great distinction, and presided over his elementary studies. The sagacity and penetration of Spallanzani discovered itself at an early age, so that the name of *the Astrologer* was given him by his young companions, on account of the singular acuteness of his mind. At the age of fifteen he went to Reggio, where he studied rhetoric and philosophy under the tuition of the Jesuits. His progress in belles-lettres was so rapid, that he attracted the attention, not only of his tutors, but likewise of the Dominicans, who endeavoured to induce him to enter their order; but fortunately, his thirst for knowledge led him to the university of Bologna, where his relation Laura Bassi, deservedly celebrated for her genius, her eloquence, and her mathematical knowledge, was one of the most illustrious professors in the Institute. Under the direction of such a guide, he learnt to prefer the study of nature to that of its commentators, and to judge of the value of the comments by comparing it with the original subject. He did not, however, devote himself exclusively to philosophical pursuits; he applied to the study of antiquity and belles-lettres, and to the Greek, Latin, and French languages; and, notwithstanding his attachment to natural philosophy, in compliance with the wishes of his father, he studied law, and was about to take his degree, when his countryman Anthony Valisnieri, professor of Natural History at Padua, interposed, and he was permitted to follow the bent of his own genius. At different periods of his life, he appeared before the public as a man of literature, an experimental philosopher, a naturalist, a chemist, and a physiologist; and he displayed the same acuteness of intellect, the same quick perception and eloquent reasoning, in each of these characters. In 1754, he was chosen Professor of Greek, Logic, and Mathematics, in the university of Reggio; and, notwithstanding the multifarious duties of his charge, he began his experiments upon infusory animals with so much success, as to attract the notice of Haller and Bonnet, the latter of whom especially contributed much to confirm his taste for natural history. In 1760, he accepted a chair in the university of Modena. Although he received more advantageous offers from Coimbra, Parma, and Cesena, his love of his native country, and his attachment to his family, led him to refuse them; and the same motives induced him to reject, some years afterwards, flattering overtures from the academy of Petersburgh. His patriotism, however, yielded to the seducing advances of the Empress Maria Theresa, who appointed him, in 1768, Professor of Natural History, and Keeper of the Museum, in her revived and highly-favoured university of Pavia. The demand for eminent professors is always great on the Continent, and there is considerable competition among the small rival universities. On the death of Valisnieri, Spallanzani was offered the Natural History chair at Padua; but the government of Lombardy thought proper to bribe him to remain, by doubling his salary, and allowing him to travel to Constantinople. After the conquest of Italy by the French, he was offered the appointment of Professor of Natural History at Paris, which he declined, on account of his advanced age. He died at Pavia, after a short illness, in consequence of a suppression of urine, on the third of February 1799.

The merits of Spallanzani, as a philosopher and an author, can be estimated better by examining his numerous publications, than by giving implicit faith to all that has been said of him by his eulogists and friends. One of his earliest productions was a criticism on Salvini's translation of Homer, in three letters addressed to Count Algarotti, and published in the 14th volume of the new edition of that nobleman's works, printed at Venice. He pointed out the gross faults of the Florentine translator; he entered into some curious details respecting the etymology of a variety of words, ascertaining their real import, and restoring the true sense of the Greek text; and he showed, in his native language, expressions sufficiently bold and energetic to copy the splendid imagery of Homer, particularly by his translation of the famous description of the cestus of Venus. He had always a great passion for travelling; and his love of prying into the secrets of nature led him to make his journeys one of the means of discovering useful truths. In an excursion to the Appennine mountains, he had the satisfaction of finding his theory with regard to the origin of springs confirmed. He observed, that they were more or less numerous and abundant, according to the structure of the mountains, their direction, and their power of converting the suspended vapours into water, and their disposition to collect and transmit it through the lateral orifices, which are invariably below the level of the tops of the nearest or adjacent mountains *.

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* "Descrizione d'un viaggio montano con osservazioni sull' origine delle fontane: lettere due à Vallisneri figlio. 1762, Raccolta d'opuscoli scientifici, tom. XIV."

Is the rebounding of a stone, when thrown obliquely upon the surface of a lake or river, to be ascribed to the elasticity of the water? This is the common prevailing opinion, but Spallanzani, from the result of very ingenious experiments and calculations, ascribes the effect to a necessary change in its line of direction, produced by the cavity which it forms on touching the water: and he accounts for the repetition of the rebounds, as long as the original projectile force continues, from the smallness of the angle of projection, which is occasioned by each successive cavity[†]. During his residence at Modena, he published his microscopical observations on the *animacula infusoria*, suggested by the opinions of Needham and Buffon; and this work procured him the approbation and correspondence of many eminent men in different countries.

His next essay, upon animal reproductions, was published in 1768; it was intended only as an outline of a more extensive work; but he thought the details and illustrations given by his friend Bonnet, rendered the fulfilment of this intention unnecessary. No one elucidated this curious subject in so original and varied a style as Spallanzani. He confirmed the multiplied regeneration of the polypus, and the common earth worm; and discovered, that the fresh-water worm reproduces itself *ad infinitum*; each part, however it may be divided, becoming a complete animal of its species. Several animals of a more complicated structure afforded results no less surprising. Toads, lizards, and salamanders, recovered their paws, their tails, and their jawbones; the water-snail its horns, and the land-snail almost all its members. Presciani has indeed shown, that the brain is not situated in that part of the snail which is amputated, although it is called the head; the reproduction of this part, however, is not the less wonderful, as the experiment proves the regeneration of what serves very important purposes in the animal economy.

The attention of Spallanzani was next excited to the circulation of the blood, and he made a variety of experiments on salamanders, in consequence of reading Haller's physiology. This work was translated into English a few years ago, and it contains many valuable and important observations on the influence of the heart's action upon the arteries and veins, and the relative velocity of the blood in the larger, middle-sized, and small vessels. There is nothing in the whole history of Spallanzani's life which does him so much credit, as the intimate and unreserved intercourse which was kept up between him and the celebrated naturalist of Geneva, Charles Bonnet. They mutually communicated to each

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[*] De lapidibus ab aquà resilientibus dissertatio, 12mo. 1766.

each other their labours and their discoveries, and neither of them published any thing without previously consulting the other. Spallanzani translated the *Contemplation de la Nature* into Italian, enriched it with valuable notes, and adopted it as a kind of textbook in his lectures.

In 1780, he published his dissertations relative to the natural history of animals and vegetables, (" *Dissertazioni di fisica animale e vegetabile, Modena,* 2 tom. 8vo.)", which contain an assemblage of facts, the most numerous, most conclusive, and best arranged of any experimental treatise of which natural history can boast. His researches into the nature of the function of digestion are wonderfully ingenious; and we have not only to admire the fertility of that active genius and imagination which could devise such various experiments, but the courage and perseverance which was required for the performance of them. He proves, by the most decisive and simple experiments, that the gastric juice is the direct and immediate agent of digestion; that it acts not by producing fermentation or putrefaction in the aliment, but by an absolute solution of their principles; and that it is influenced by the various laws of affinity peculiar to its own relations, and its own composition. Perhaps it may be said, that Dr Stephens, in this country, had invented the use of tubes to ascertain the solvent power of the gastric juice, but his valuable experiments do not detract from the merit of the discoveries made by the physiologist of Pavia. And it is unworthy of great and generous minds to nibble the reputation of an experimental philosopher, because he has not given a complete and distinct view of the whole series of any phenomena which take place in an important process in the human body. Spallanzani did not consider his observations on digestion as complete; he has not investigated the influence of the nervous system upon the stomach; but he has left those inquiries to be made by others, and he has pointed out the manner in which they should be conducted. Upon the subject of generation, Spallanzani's discoveries are too well known to need any account here.

Among the various topics which incidentally occupied his attention, one of the most curious is his idea of the bat being endowed with a new sense. He supposed this animal was furnished with a a sixth sense, because it did not seem to suffer by taking away one of the most important of the ordinary five. But he afterwards relinquished this opinion, and was quite convinced by the arguments of Mr Jurine of Geneva. This gentleman proved, by repeated experiments, that bats could fly backwards and forwards through the meshes of a net, hung up in the middle of a room, without touching the cords, notwithstanding their eyes were extracted; after they were blinded, they avoided twigs suspended by a thread from the cieling, and flew about the room with the same rapidity and precaution, avoiding all obstacles in their way, just the same as they do in their natural state. He showed that this was owing to the delicacy of their organs of hearing, for, by stopping up their ears with wax, or by wounding the tympanum, the animals became incapable of flying without dashing against objects before them. The different parts of the ear in the bat are the same as those in the human subject, but upon a much larger scale, compared with the size of the brain.

For three years before his death, Spallanzani was engaged in an extensive experimental inquiry into the function of respiration; and he has given an abstract of this work in a letter to Sennebier, which is prefixed to a posthumous volume, edited by that friend of the author's. The principal objects of this investigation were: 1. The respiration of the six classes of animals, beginning with the lowest, and proceeding in succession to the highest, or mammalia, in which man is included. 2. The respiration of those animals which become torpid from the action of cold. 3. The chemical changes induced on the air by the skins of those animals which are destitute of lungs. 4. The changes which are produced by dead animal matter on air, in which it is confined.—He had completed only a part of this great plan before his death; Sennebier has already published three memoirs on the respiration of the terrestrial testacea, of slugs, and of the aquatic testacea; and this learned gentleman is now engaged in arranging, for publication, a vast collection of Spallanzani's notes on the respiration of the cold-blooded and hybernating animals.

Such are the general outlines of the life of this celebrated naturalist, whose talents and amiable qualities have been made the subject of panegyric by many writers in different parts of the Continent. His fame as a philosopher rests upon a more substantial basis than the partiality of friendship, for his works are read and esteemed in all civilized countries. He has extended the boundaries of science, and enriched the studies of natural history and physiology with many important discoveries. In his writings, his style is diffuse and verbose, better adapted for delivery from an academical chair than for perusal in the closet. His manner of lecturing was slow, yet he was deemed animated and eloquent; and the number of his pupils was always considerable. The course of his lectures was extensive; it embraced the three kingdoms of nature; and, after the manner of Continental lecturing, he spent two whole years in their delivery. In his private conduct, he was exposed to the malice of envy, by allowing himself to be suspected of pilfering one museum to enrich another.—The protection of the Austrian Government enabled him to triumph over his accusers, though his innocence was never satisfactorily cleared up. The quarrels of rivalship are now forgotten, and his merits are but to be fairly appreciated and universally acknowledged.

## VII.

## *History of a Case of Hydrophobia, with the appearances on Dissection.*

By M. P. C. Gorcy, Member of the Legion of Honour, formerly Chief Physician of the Army, and Physician of the Hospital at Metz *.

An infantry officer, about forty years of age, of a robust temperament, a keen sportsman, of a mild but firm character, and of a very amorous complexion, but prudent, was bitten by his dog on the left hand. The same animal bit his servant and another dog. Its master, displeased, shot it. The wounds it inflicted healed easily; and it was not ascertained, nor even suspected, that it was mad.

About eight months afterwards, the officer experienced fits of passion, such as he never before had, observing himself that for some time past, his character was changed, and that he vexed himself about trifles, a thing quite new to him. He reproached himself with being no longer master of himself, and of fretting, as he said, like a child.

This irascibility, this change of character, was ascribed to vexation about the uncertainty of retaining his situation, and the poverty of his family should he lose it altogether. Some disagreeable news increased his uneasiness; and he suffered the more from it, that having been accustomed to conquer himself and to bear up against adversity, he did every thing he could to conceal the state of his mind. On several occasions, however, he showed his despair by exclamations, which would have excited alarm, if his friends had not always been accustomed to place the greatest reliance upon him.

One day when he was hunting, he met a man who made some observations on his traversing fields not his own. This man was unarmed, used no insolent threat, and did nothing to him which should have enraged him; nevertheless, he had such a paroxysm of fury, that he could scarcely contain himself, and had almost shot the man. On returning home, he related what had passed, saying that he did not know himself, and that his character was changed.

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* *See* Journal de Medecine, Chirurgie, Pharmacie, &c. Par M. M. Corvisart, Leroux, & Boyer. Tom. xiii. p. 103.

During these transactions I saw him in the country, where he lived, and conversed with him. I do not remember to have remarked any thing which seemed to announce a mortal affection, or which led me to suspect the cruel disease which was soon to take him from his family.

Another cause, which contributed to affect all his nervous system, was the restraint which his wife imposed upon him, on account of the smallness of their means, and the largeness of their family. He was extremely sensible to the obstinate refusal which she constantly opposed to his repeated solicitations. He became jealous; and his disturbed imagination led him to believe absurdities and improbabilities, which really seemed the offspring of a disordered brain. But the former goodness of his character, and his just causes of anxiety, made his late crossness be easily pardoned.

In these circumstances, when walking in his garden, he gave a violent blow to the thumb of the hand which had been bitten. It caused the most acute pain, and prevented him from sleeping, although emollients were applied to it. Next day (3d Thermidor, an. ix.) he went to breakfast with a neighbour; but, on carrying the cup to his mouth, he again placed it on the table, saying that he could not swallow. He was advised to go to bed, and returned home, after saying, while he pointed to his head, that he had something there which made him fear some unpleasant event.

Afterwards, he only complained of a stiffness in the back part of his neck, which prevented him from turning his head, and of great difficulty in swallowing.

A physician was sent for, who thought that the patient was threatened with tetanus, and advised the internal use of anodynes, and the application of emollients to the thumb, which seemed to him the cause of all the symptoms. The patient was also put into the bath, and even remained in it some time.

Next day the symptoms were aggravated; the difficulty of swallowing increased; the night was passed in almost constant agitations; the stiffness of the neck was more considerable; the pain of the thumb acute; the patient experienced spasms every time drink was presented to him; or, when he swallowed a few mouthfuls, which he was still able to do, though with great difficulty, and after repeated attempts.

His wife, imagining that the obstinacy of her refusals was the cause of his disease, yielded to his desires *, and her complaisance had no unpleasant consequence.

I was called next day. From the history of his case, I resolved to go immediately; and, as he was in the country, I carried with me some medicines, which I was sure I could not get there, such as opium, musk, camphor, and calomel, thinking that I had a case of tetanus to treat.

On my arrival, I found the patient dressed, and walking in his room, with the windows and door shut. He gave me his hand, and related his own state: "I feel," said he, "a very inconvenient stiffness in the muscles of my neck, and a tightness in my throat, which prevents me from swallowing; the pain of of my thumb is much diminished, and I scarcely feel it." I observed him attentively while he spoke; and I perceived that every time he mentioned drink, he made a convulsive inspiration like that which we experience on going into cold water; the only difference was in its force and repetition. It was easily seen how painful this spasm was to the organs of respiration. I made him open his mouth to examine his throat, but saw nothing extraordinary. I remarked, that a current of air, blowing upon him, excited the same spasms. At that time I did not know of his having been bitten; but the symptoms soon indicated the nature of the disease, and convinced me that it was not tetanus I had to treat.

I requested the patient to drink, and I offered him a glass of herb tea. The very mention of drink made him shudder; but he consented, provided the drink was placed at his side, so that he could take it himself when he found a favourable moment. On seeing the filled glass, he had one of his fits of convulsive movements, of great severity, and lasting almost half a minute. He got composed, however, although beside the object which had affected him so violently. He spoke to us with mildness of the singularity of his state, imagining that he was losing his senses, and implored our assistance. He did not, however, give up his intention of drinking, but put forward his hand to the glass several times, which always renewed the spasms, but only resembling the former; at last he seized it, carried it hastily to his lips in spite of his convulsive agitation, made the most courageous efforts to swallow a few drops, was unable to persist, set down the

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* Fred. Dekkers quotes a similar fact; but the disease was not so far advanced as in the present case. *Van Swieten*, 545. c. III.

the glass hastily, and throwing himself with his face on the bed, cried out with a lamentable voice, complaining that he died of thirst, without being able to swallow any thing to allay it.

When this violent crisis had abated, he seemed to regain his usual tranquility. He walked in his room, and it was then that I clearly saw that the slightest current of air produced convulsive tremblings. He constantly experienced them when the door was a-jar, or the passing of any person quickly by him caused the slightest current of air towards him. However, he could still leave his room, and even walk in his garden without suffering very much. He had only the sobbing inspiration already mentioned, and an unsteady gait.

The prognosis of this cruel affection was not difficult to pronounce. I considered this unhappy father as a victim devoted to the cruelest death; and it was after explaining myself that I was informed of the bite of the dog, but with circumstances which made me doubt that the animal was attacked with hydrophobia.

I did not, however, choose to remain an inactive spectator of the catastrophe. I recalled to my recollection all the modes of treatment, and all the remedies recommended for this disease, and I decided on the following.

I immediately prepared, with the medicines I had brought, a mixture of musk, calomel, nitre, and sugar, of which the patient took a large dose every hour. I applied an embrocation of warm olive oil along the whole spine; and as soon as I could get mercurial ointment, I made half an ounce of it be rubbed into his legs and thighs. Although the contusion of the thumb was no longer painful, and the place of the bite could not even be perceived, I still caused the whole hand to be rubbed with warm olive oil. I ordered him, for food, some pap, of which he took very little, but he eat some bread, for he said, that he was also distressed by hunger.

At this period, the patient had no spasmodick twitchings, except when drink was offered to him, or a current of air blew upon him; at other times he appeared tranquil, and spoke very reasonably, and even conversed of things unconnected with his situation. Still we could remark, that all the internal parts above the diaphragm were affected with continual spasms. His face even seemed to partake of this state; his mouth was contracted with the appearance of a forced smile; his eyes were brilliant, as in the commencement of drunkenness; his tongue was not free, and his mouth very dry.

As my occupations carried me back to the city, I left my patient, recommending him to continue the antispasmodick powders,

ders, and mercurial frictions, but did not conceal my opinion of the event.

Two days elapsed with the same symptoms; the treatment I had prescribed was continued; and the frictions especially carried à great length.

His relations resolved to bring him to the military hospital, to be more immediately under my care; and his services entitling him to admission, he was brought, though with some difficulty. As soon as I heard of his arrival I hastened to see him.

At the moment of his admission he had been guilty of some follies, and had some alarming appearances of delirium, which induced them to tie his hands and feet. In this state I found him; and he desired me, with the most pressing entreaties, to set him free, promising most reasonably to do no harm, and to remain quiet. He called upon his wife, and spoke to her in the tenderest manner. The tranquillity of his mind, although his arms and legs were in constant agitation, would have induced me to set him free; but a refusal from every person to remain with or attend him, unless he were secured, and the terror which he inspired notwithstanding all I could say, determined me to leave his feet tied, and only to grant him the liberty of his hands.

With this he was content, but his agitation did not decrease. His mouth was then very dry, his eyes sparkling, his skin dry, all his features altered; and from time to time palpitations were observed, sometimes in one, sometimes in another of the muscles of his face. He asked for bread to eat, saying he was dying of hunger. I gave him a piece, on which he fell with avidity, filled his mouth, tried to chew it, but not being able, from want of saliva, threw it from him, expressing acutely the misery of his situation.

I left him about five o'clock. During my absence his agitation increased, but it seemed as if the presence of a person to whom he was attached, or for whom he had respect, calmed him a little; he even seemed to be afraid of reproaches; but whether his paroxysms became more violent, or whether it was the timidity of his attendants, they resolved to tie his hands.

At my return, I found him in extreme agitation, bordering on delirium. He complained, with great bitterness, of the bad treatment he had received, and of the shame he felt at being thus tied. He made continual efforts to escape. His voice was broken and trembling; he laboured with all his muscles; his respiration was laborious; and it seemed as if he was obliged to inspire before he had finished his expiration. His ears were livid; his pulse hurried, as after running; and the artery was hard like a stretched cord. He made such contortions of his lips, and all the muscles of mastication and deglutition, that his attendants thought he wanted to spit upon them: for my own part, I did not perceive that he ever had either the intention of biting or spitting upon any one; and besides, the saliva was so thick and so scanty, that the latter was not much to be feared.

The delirium and agitation continually increased. The whole muscular parts were tormented with continual twitchings; then they assumed a tetanic rigidity, and a hardness resembling that of solid bodies; the diaphragm in convulsive agitation produced a sobbing hiccough, quite peculiar; the jaws approached each other with violence; he ground his teeth; his respiration became more short and laborious; his neck swelled; he bit his lips; his whole body was in convulsive motion; and at last, after a general shock, which seemed as if it should have crushed his whole frame, this unfortunate man sunk under the pressure of so many ills, at midnight, about eight days after the appearance of the first symptoms of hydrophobia.

Ten hours after death, I examined the body. The places where he had been tied were bruised, and had even the skin rubbed off; the wounds were red. The whole surface of the skin was covered with a red-violet ecchymosis, marbled with deeper and lighter shades. The epidermis was dry and rough; the skin seemed to have been rendered thinner, by being stretched. The muscles were all in such a state of hardness and tension, as would have led to a belief, that they were not yet dead, if the lividity of the face, and the beginning putrefaction of the lips, and their angles, as well as the terrible symptoms which preceded, could have left any doubt on the subject. The tendons, especially of the extremities, were in a state of tension approaching to rupture.

The countenance was entirely disfigured; the irregular twitchings of the muscles of the face had impressed upon it that convulsive appearance, known by the name of *risus sardonicus*. The lips were flaccid, and had livid marks from his bites; the nose was contracted; the *alae* raised as in the *facies hippocratica;* the ears were very pale; the teeth closed; the jaws shut, so that they could not be opened; in fine, the whole body was so stiff, although the weather was extremely hot, that one part could not be moved without the other.

The body was opened in my presence by two of my pupils: one of them wounded his thumb, when breaking a rib, but experienced no bad consequence from it, although he had the imprudence to suck it. There remained, however, a slight elevation on the part, which he has cauterized several times, and which, at first, suppurated repeatedly.

On opening the abdomen, all the intestines were filled with air; the illeum was inflamed; the jejunum and duodenum contained a thick viscid humour of a very deep green colour; the large intestines were otherwise healthy.

The liver did not appear diseased, and was not larger than natural; but the bile was black, and tinged paper of a dark brown colour.

The urinary bladder, spleen, and pancreas, were healthy, as well as the kidneys; but the atribiliary capsules had their cavities effaced and united by gray soft substance, and there was no appearance of fluid in them.

The pericardium appeared sound, as well as the heart; the whole extent of the vena cava, and the right auricle and ventricle were turgid with black grumous blood.

The anterior surface of the lungs was of a gray colour, which penetrated into nearly a third of their substance; the two other thirds had a violet purple colour, proceeding from a great quantity of black blood which they had imbibed.

The neck appeared very much swelled; but this tumour proceeded from the right lobe of the thyroid gland, which had a cavity filled with air, and whose sides were of a membranous and compact texture, while the substance of the lobe was reduced almost to nothing; that of the opposite side was in its natural state. The external and internal surfaces of the larynx exhibited no appearance of lesion, and there was no communication discovered between the aerial tumour of the thyroid gland, and the larynx or trachea.

The inside of the mouth, pharynx, and œsophagus were not moistened as in their natural state. On the pharynx was an ecchymosis corresponding with the posterior extremity of the great horn of the os hyoides. The stomach was empty, and in its natural state.

The brain presented no apparent lesion; the vessels did not appear particularly turgid; the lateral ventricles contained only a very small quantity of serosity; on the contrary, the basilar gutter was filled with it; and it seemed as if the fluid penetrated into the vertebral canal, as it was seen at its upper part.

But a phœnomenon worthy of attention, which has not yet been observed, so far as I know, in this disease, occurred to us when examining the eyes. The iris exhibited the same motions as in life; the pupil dilated itself on covering the eye with the eye-lids, and again contracted as soon as the light was admitted. These alternate motions were as lively as during life. The colour of the iris was not changed; it was of blue gray, and had only acquired a lustre or brilliancy, which might be called phosphoric.

phoric. We excited this sensibility of the iris many times, and more than twelve hours after death.

We refer our readers to the original for a long critical dissertation on some popular prejudices concerning hydrophobia, and its treatment, as well as for the detail of our author's arguments, for considering that the hydrophobia, in the present instance, did not proceed from the bite of a rabid dog, but was spontaneous. They reduce themselves to the following:

1. The dog was young, quarrelled with its fellow, which it bit severely; and it was in attempting to separate them, that first the huntsman and then the master were bitten.
2. It was not at the time supposed to be mad, and, during his whole illness, its master never imagined that the bite was the cause.
3. Neither the other dog, huntsman, nor another child, whom the same dog had bitten, suffered any bad consequences from the bite.
4. The supposition that the bite of an animal merely enraged can produce hydrophobia is without proof.
5. Communicated hydrophobia proves commonly fatal on the fourth day; the fatal case of spontaneous hydrophobia, mentioned by Salius Diversus, terminated on the eighth, the duration of the illness in this case *.
6. If it be correct that the breaking out of the cicatrix, or at least, that swelling and pain in the place bitten, are constant precursors in hydrophobia, these were wanting in this instance.

## VIII.

## *Dissection of two Cases, in which a Moveable Body was found within the Cavity of the Vaginal Coat of the Testis; illustrated by an engraving; with Remarks.* By JAMES WARDROP, Fellow of the Royal College of Surgeons of Edinburgh.

### DISSECTION I.

WHEN removing the testis with its vaginal coat, from an anasarcous scrotum, it felt very flabby and soft. The vaginal coat

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* A case of hydrophobia occurred in Edinburgh last summer, in which the patient lived fifteen days after the first appearance of the disease, and eight months after being bitten. There was no doubt of the disease being communicated, for the dog was destroyed as being mad, and the first symptom was an inflammation, and papulary eruption on the part bitten. In other respects, it had a considerable resemblance to Mr Gorcy's case.

coat was laid open, a small quantity of a transparent yellowish coloured fluid escaped, and a substance three-fifths of an inch in diameter, was found lying loose within the cavity. This body was of a globular form, with its surface very smooth, and it had the colour and all the elasticity of common cartilage. It was very tough, and made considerable resistance to the edge of a sharp knife. When divided, it was found to be composed of distinct concentric layers, and there was a small brown spot in the centre, which was as hard and brittle as bone. The vaginal coat was of its natural thickness; but on the albuginea, at the upper part of the testicle, there were *two* small masses hanging loose, which appeared to be pieces of firm coagulated lymph.

### DISSECTION II.

A subject was brought into the dissecting room, with a considerable swelling of the scrotum, which was supposed to be a common hydrocele. With a view of making a preparation of the diseased vaginal coat, the fluid which it contained was discharged by a small opening, and the cavity filled with strong spirits. Some months afterwards, the vaginal coat was laid open its whole length, and a body of the form, and nearly of the bulk of a garden pea, was found floating among the spirits. The surface of this body was smooth, and polished, of a semitransparent whitish colour, very elastic and firm, and resembling in every respect a piece of cartilage: as it was accidentally lost, it could not be very minutely examined. The vaginal coat was a little thickened; and instead of having a smooth internal surface, it was unequal, from the effusion of layers of coagulated lymph. The albuginea was also considerably thickened; had lost its shining surface and become rough; and acquired that mottled appearance, so remarkable when lymph is effused on the surface of an inflamed heart. Towards the inferior and posterior part of the testicle, there were many strong adhesions between the tunica vaginalis and albuginea; the bond of union being formed by a number of bands of a firm coagulated lymph, very much resembling the columnæ carneæ in a heart which has been long macerated in spirits. On the upper part of the testicle there were two small tumors, which were loose and pendulous, and appeared to be composed of a substance similar to what formed the bands.

As I could obtain no history of either of the preceding cases, it is impossible to make any observations on the symptoms and progress of the disease. From the appearances of the diseased parts, more particularly from the effusion of lymph on the surface of the testicle and vaginal coat, it is highly probable that the morbid changes had altogether arisen from previous inflammation. The effusion of lymph is one of the most remarkable effects of inflammation of the peritoneum, pleura, pericardium, and of all serous membranes. And the vaginal coat, which belongs to the same class, is often observed, in a hydrocele which has been preceded by inflammation, to be thickened, and to have lost its polished surface from the effusion of lymph, and even adhesions to have been formed between it and the albuginea.

The remarkable circumstance in both cases was, the moveable body within the cavity of the vaginal coat; and it is difficult to explain, in a satisfactory manner, how masses unconnected with the rest of the body but by the medium of a fluid, could be formed: Whether they originally adhered to the surface of the tunica vaginalis, of the same bulk and shape as they were found on dissection, or whether they were formed independently of any such connection? It appears most probable, that their formation was in consequence of the effusion of lymph on some part of the surface of the tunica vaginalis; that, from repeated attacks of inflammation, additional matter was gradually added to the lymph already effused; and that, as they were floating in a fluid, their attachment was elongated by their own gravity, they became pendulous, and were finally completely separated. When they were once detached, and allowed to lie loose in the fluid, it is easy to conceive, that, as they would be continually altering their situation, from the mobility of the parts, they would assume a rounded form, and acquire a smooth surface. This opinion is strongly corroborated from the small pendulous masses which were found, in both cases, attached to the upper part of the testicle; and it is very probable that these masses would have been ultimately separated, and have become loose bodies, resembling the others. How far they could increase in bulk, from the addition of new matter, after their separation, I am afraid to hazard even a conjecture.

I believe that the morbid appearance here described occurs very seldom. Dr Monro, sen. in his work on the Bursæ Mucosæ, mentions having observed, during an operation for hydrocele, that there were several moveable bodies contained in the sack along with the water, and Dr Baillie has only seen one example of it; but neither of these cases are given in detail.

Morgagni has observed in several cases small pendulous globular tumors, of the colour of the albuginea, adhering to the upper part of the testicle; and, in one case, he says one of these bodies seemed, by some accident, to have been separated from its attachment, and left loose in the cavity, as the neck remained by which it seemed to have adhered. Professor Richter of Göttingen is the only author with whom I am acquainted, who has given a full account of any case of this disease *. And, as it is interesting in a practical as well as in a pathological point of view, showing the practical surgeon the difficulty he may meet with, were he not aware of the existence of such a disease, I shall quote his own words.

" The patient was a man of 40 years of age, and otherwise in perfect health. The swelling was altogether on the right side of the scrotum, of the size of the fist, but so very little tense, that fluctuation was quite evidently felt, and, by external pressure it could be squeezed into various forms. It resembled a sack which was only half full of water. In this there was very plainly felt fluctuating three round bodies, which were quite hard, and of the size of a very large hazel nut. The scrotum was furrowed, and the swelling not painful. The disease had been taken for a hernia of the urinary bladder, and the hard bodies in it for urinary calculi. But as the patient not only now, but from the beginning of the disease, had never had the smallest urinary complaint, as he could retain his urine for a long time, without the swelling of the scrotum increasing, as pressure did not diminish the swelling, and occasioned no sensation in the bladder, and especially as the swelling was far distant from the abdominal ring, and had not the least connection with it, I declared that it was not a vesical hernia, and determined upon the operation, although I could not explain the real nature of the swelling. I opened the tumor by a long incision. A colourless transparent water flowed out, and with it came away three bodies of the shape of an egg, which were of an osseous substance, and covered with with a cartilaginous crust, and no where attached, but floated quite disengaged in the water. When the water flowed out, I examined the cavity in which it had been contained. It was not a condensed cellular membrane, not a ligamentous sack, as I had expected, but an extremely loose and flaccid cellular membrane, which consisted of isolated large vesicles, some of which run across the sack, and divided it as if into different cavities."

It may not be out of place here to remark the striking analogy between the disease that has been just now mentioned, and those moveable bodies, or loose cartilages, which are formed in the sinovial cavities.

In the natural state, the serous and sinovial cavities resemble each other, as they are both shut-bags supplied by exhalation, with a fluid intended to lubricate surfaces which were exposed to friction, and to prevent their union; with regard to their diseases, both are liable to have their fluid collected in a preternatural quantity, to have adhesions found between the surfaces, &c.: and we now also observe, that both have moveable bodies formed in their cavities. The

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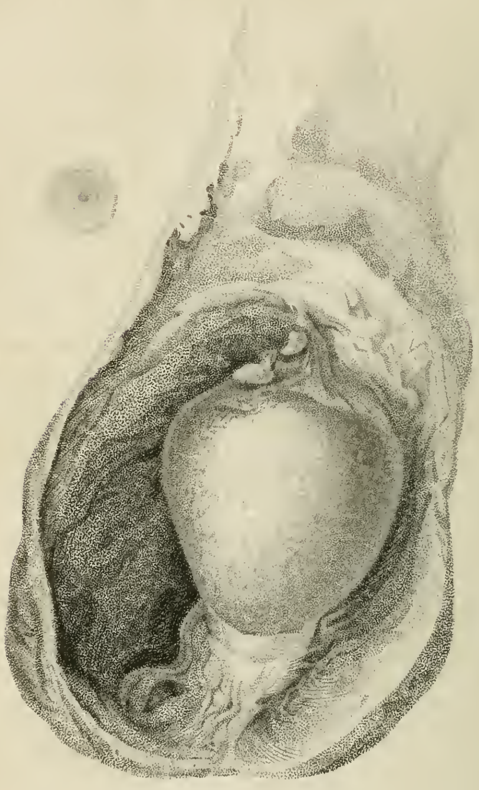
* Richter's Medical and Surgical Observations, 8vo. Edinburgh 1794.

Edin^r. Med. and Surg. Journal. *Page 1.*

*Mr. Wardrop's case*
*of a*
*Disease of the coats of the Testicle.*



*Syme ad nat^m. del^t.* *Published by A. Constable & Co.* *Mitchell sc.*

The structure of the loose cartilages of the knee-joint, so accurately described by Mr Home *, are exactly similar to those found in the vaginal coat in the cases above mentioned; some of these Mr Home found to be entirely cartilaginous, others had the appearance of cartilage externally, and the central portion bony, and some were altogether osseous.

### *Explanation of the Plate.*

The drawing represents the cavity of the tunica vaginalis laid open in the 2d dissection. The testicle is seen with an unequal mottled surface, and its natural shape somewhat altered, both from the effusion of new matter, and from its having been for some time kept in spirits. On its upper part are seen the two small pendulous masses, and toward the inferior part numerous strong bands of coagulated lymph pass towards the tunica vaginalis. The small figure represents a section of the moveable body, found in the first case, of its natural size, and shews the concentric lamellæ of which it is formed, and the small osseous substance in the centre.

## IX.

## *Case of Gout in an African Negro.* By ANDREW DUNCAN, Senior, Professor of the Institutes of Medicine in the University of Edinburgh.

ALTHOUGH I am fully persuaded that the causes which operate most powerfully in the induction of gout are indolence and luxury, yet it is probable that no condition of life gives perfect exemption from that painful disease: And, contrary to the opinion of some, I have no doubt that it does occur even with the African negro. This I think is clearly demonstrated by the following case, which, last winter, was under my care in Clinical Wards of the Royal Infirmary of Edinburgh. I shall here transcribe it in the words in which it is inserted in the records of the hospital, without any alteration or addition.

John Williamson, an African negro, æt. 31. a servant, April 4th 1807, is affected with constant acute pain in the right side, which shoots between the shoulders, and entirely prevents him from making a deep inspiration; it is much aggravated by a frequent cough, attended with the copious expectoration of a very viscid sputum: he can lie with greater ease on the left, than on the right side, but has most relief when lying on the back. Respirations seem laborious, and are 26 in a minute. Complains also of severe pain of the head, with vertigo, and constant tinnitus aurium, particularly in the left ear. Has also some soreness of throat; he swallows with difficulty; and a slight inflammation, but no swelling, is perceived in the fauces. He is likewise affected with pain in the balls of both great toes, which has induced considerable lameness. Pulse 130; skin hot, and moist; tongue white, with great thirst; belly loose, urine natural, sleeps ill, no appetite.

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* Transactions for the improvement of Medical and Surgical knowledge.

The pains of breast and difficult respiration came on suddenly four days ago, and some hours previous to the attack, he had been affected with rigor, in a short time followed by augmented heat. He has been frequently affected, during several years past, in a similar manner, and was always relieved by blisters applied to the breast and side. About a week ago an abscess burst in the left ear, which was followed by the oozing of a purulent matter. The pain in the ear which then occurred is now gone, but a constant tinnitus still remains, with much headach, which however is at present less severe.

Two months ago he was suddenly seized with pain in the right great toe, which was also affected with swelling and redness. It was induced, he thinks, by having on damp shoes for some time. The pain and swelling in a short time were removed, but soon after attacked the left toe, in which some swelling is still perceived. This affection had almost entirely ceased, when the pain of breast and difficult respiration occurred.

It appears that he has been often subject to severe lancinating pains occuring about midnight in one of his great toes, frequently leaving it, and attacking the other. He has applied the volatile liniment to them with relief; but has used no medicines for the present attack of the pain of the side, which he thinks was caused by living in a cold house. He was a trumpeter to a regiment of dragoons for several years, but for these five years past followed the occupation of a gentleman's servant.

Applicetur vesicator. parti dolenti lateris, et bibat potum acidum vegetab. ad libitum.

April 5, The blister has risen well, and the affection of his breast is somewhat diminished. He had, however, a very restless night, and walked about the ward with much delirium. It now appears that he gives a very incoherent account of his present symptoms. Pulse 132.

Capiat statim Phos. sod. ℥iss more solito, nec non
℞ Opii gr. i.
Sub mur. hydr. gr. v.
Pulv. rad. glycyrrh. q. s. ut ft. pilul. duæ h. s. sumend.

6th, He had one stool from the salts, but he has had much mental derangement during the whole night, and can at present give no information respecting his complaints. Pulse 130, neither full nor hard.

Repetatur Phosph sod. Interm. pilul.

7th, He gave so much disturbance to the other patients, that it became necessary to confine him to a secluded apartment. The purgative taken yesterday did not operate, and he continued to have much derangement during most of the night, but he has slept some this morning, and is to day a good deal more recollected. He complains principally at present of an uneasiness of his head. Pulse 130, skin rather hot.

Interm. Med.

Abradatur capil. et lavetur caput ter quaterve in die, aqua frigida cum aceto; nec non

℞ Tartrit. antimon, gr. vi.
Aquæ fontan. ℥ vi. misce.
Capiat ℥ss. omni. bithorio. donec supervenerit vomitus vel catharsis.

8th, The solution produced a purgative effect after a second dose, and has been followed by several loose stools; he has had much delirium during the night, but was more distinct this morning. Pulse 140.

Interm. solut. tart. antim. applicetur vesicat. capiti, et sumat mist. mucilaginosæ ℥ i. tertia quaque hora.

9th, There has been no discharge from the blister; he had much derangement during the first part of the night, but has been somewhat recollected this morning. Pulse 138, belly still loose, skin hot, and he has much thirst.

Cont. med. mucilag. et bibat potum acidum vegetab. ad libitum.

10th, Has still much delirium, and has had three loose stools since last visit; there has been a considerable discharge from the blister. Pulse 138.

Cont. med. ut antea.

11th, Died this morning about two o'clock.

### *Appearances on Dissection.*

The vessels of the brain appeared very numerous, and turgid with blood; a quantity of yellowish coloured serous fluid was found effused between the tunica arachnoidea and pia mater, on the surface of the brain, and also into the cavity of the lateral ventricles, the choroid plexus of which were found almost quite destitute of blood, and of an unusual deep yellow colour. The lungs of the left side were quite sound; those of the right, sunk in water, were of a dark colour, and adhered, in many parts, to the pleura costalis. They were full of mucus, and had a firm feel, somewat similar to the liver. The gall bladder was observed ed nearly empty, and a small concretion, about the size of a common pea, was found situated near its neck. The cellular substance, throughout all the body, appeared of a deep yellow colour.

The above account, as I have already observed, is taken verbatim from the journals of the Royal Infirmary; from which it appears, that the case of this patient had, in a short time after his admission, a fatal termination. In many respects, however, it affords, in my opinion, an example of a singular and interesting affection.

This is evident, both from the history of disease prior to the admission of this patient into the hospital; from the anomalous appearances which his disease put on while he was in the hospital; and from the morbid affections which were discovered on dissection. Each of these particulars might afford room for many remarks. But into such a detail I do not at present propose to enter. I shall only say, that I found no reason to alter the opinion which I formed of this patient's disease, when he was first admitted into the hospital. From the account given of his case, I then considered him as subjected to irregular gout; and no circumstances occurred, while he was in the hospital, to lead me to adopt a different opinion. On the contrary, the seat of the pain in the foot; the sudden transition of it from the one foot to the other; from the foot to the breast; and from the breast to the head; tended to confirm my conjecture.

If this conjecture be well founded, the present case is the first I have met with, after thirty years practice in the city of Edinburgh, of gout occurring in an African negro. Gout is principally a disease of the rich, the luxurious, and the indolent. To these causes of predisposition the Africans, in their own country, are not much exposed. Hence with them there is at least less chance of its occurring as an hereditary affection. And unquestionably it is one of those diseases which is often transmitted from parents to their children.

But, even among Britons, gout certainly appears in many instances where it is not hereditary; and where it is not the effect of indolence, of luxury, of riches, of genius, or of any of the other ordinary causes of predisposition.

I have repeatedly met with distinctly marked instances both of regular and anomalous gout among the labouring poor of this country. I have often met with the disease in females; and I am convinced, that, although men are more liable to it than women; although it more frequently affects the indolent than the active; yet that neither sex nor condition give perfect exemption from it. Hence I hold the circumstances of this patient, to be no insuperable argument against the supposition of gout. Had the same phœnomena, which are described in his case, occurred in a rich and indolent Englishman, no one could have hesitated in considering him as subjected to gout; and from those phœnomena I conclude, that this African negro laboured under that disease.

This disease, whether my conjecture with regard to it be well founded or not, had soon a fatal termination. The different remedies which were directed for him seemed to have very little influence, in producing even temporary alleviation. Of these, therefore, I shall say nothing: I shall add only a few words with regard to the appearances discovered on dissection.

An opportunity was not afforded us of examining all the parts with the minute attention which could have been wished; for two of his African friends insisted on being present, and would, on no account, allow any of the morbid parts to be removed for more particular examination.

But we saw enough to be satisfied with regard to the cause, both of his death and of the remarkable delirium to which he was subjected. The brain was evidently diseased in different ways. Its blood-vessels were every where turgid, and were visible in much greater numbers than is commonly the case; a necessary consequence of the red particles of the blood having been forced into vessels not naturally intended to receive them; a circumstance occuring in all inflammations, as is obvious inevery instance of ophthalmia. A quantity of serous fluid was found deposited between the tunica arachnoidea and pia-mater; a consequence of effusion being augmented from encreased action of the vessels. A quantity of serous fluid was also found in the ventricles of the brain; a proof that hydrocephalus may sometimes be a consequence of preceding inflammation.

These morbid appearances were, in my opinion, sufficient causes, both for the remarkable delirium, and the death of our patient. But besides the causes of the affections of the head, the dissection demonstrated also, the causes of his preceding pectoral complaints. While the lungs in the left side of the thorax were sound, those in the right side were in a remarkably diseased state. To the feel they appeared so firm, that they resembled more the substance of the liver than of the lungs in their ordinary state. There could be no doubt, that they had been subjected both to considerable inflammation, and to consequent effusion. Thus all the urgent symptoms which we had an opportunity of witnessing in the hospital, might, I think, be satisfactorily accounted for from the local affections which were discovered on dissection.

How far these local affections were the consequence of gout, may perhaps, with some, be a matter of doubt. But it is at least certain that gout, in its most regular form, does produce local inflammation. This is every day demonstated, by the obvious inflammation of the great toe; and, for my own part, I have no doubt, that, in misplaced and irregular gout, similar local inflammations are produced in other parts. To me, therefore, it seems to be at least the most probable opinion, that, in this case, the local affections, both of the brain and lungs, were consequences of inflammation, originating from gout.

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## X.

## *Observations on the History and Treatment of an Epidemic Ophthalmia, which appeared in the Fourth Battalion of the Royals, in Edinburgh Castle, during the months of July and August* 1807. By C. F. Forbes, Esq. Surgeon of the Royals.

Since the Egyptian campaign, ophthalmia having occasionally made its appearance epidemically in some of his Majesty's regiments, and in several instances under circumstances extremely formidable and destructive, I trust, that any communication concerning the history and treatment of that disease, will not be unacceptable to the readers of this publication.

The regiment, consisting of 419 men, marched into Edinburgh Castle from Glasgow on the 16th of July, and between that and the 20th, received 106 recruits, making a total strength of 525 men. On the 21st of July, one man presented himself with ophthalmia, and was received into the regimental hospital; on the 22d, nine more, and, on an average, seven daily, until the 28th, when 42 were admitted, which was the largest number on any one day. Between the 21st of July and the 26th of August, in all 163 men were admitted, and discharged perfectly cured.

The disease almost constantly attacked during the night or towards morning; the first symptom was universally a sensation, as if a particle of sand had been insinuated between the palpebræ and eye-ball, soon succeeded by heat, pain, &c.; sometimes by an increased secretion of tears, but frequently not. The sensation of sand in the eye was so strong, that it was difficult to persuade the men of the contrary. They occasionally awoke with the tarsi adhering to each other; and were then frequently apt to consider this as the first symptom they had felt, but upon questioning them, the commencement of the disease could generally be traced to have previously taken place.

Some complained of headach coming on in the evening, followed by a restless night, but it generally went off towards morning. This symptom was most particularly observed when the disease first made its appearance in the battalion.

In three-fourths of the cases, the right eye was the first attacked. Sometimes in the course of an hour or two the other eye became inflamed, and when this happened, the disease was equally severe in both; more commonly, however, as the one eye began to recover, the other became affected; and in proportion to the violence of the inflammation in the second eye, relief appeared to be afforded to the first. The disease did not, in a single instance, return to the eye which was first affected.

The inflammation was universally confined to the tunica conjunctiva; that part of it lining the inner surface of the palpebræ was always highly vascular, with an appearance of efflorescence, while the portion covering the sclerotic coat exhibited a fine network of vessels. In some cases there were small spots of blood effused in the cellular membrane, between the conjunctiva and the ball of the eye. In the earliest stage of the disease, the eyes had a remarkably glassy appearance; and the inner surface of the lower palpebræ, at that early period, always exhibited marks of inflammation, although frequently the person so affected was not conscious of having any complaint in his eyes. The conjunctiva lining the inferior palpebræ, was generally much more inflamed than that of the upper, and particularly at the fold where it is reflected on the sclerotic coat. The disease seemed often to be severe in proportion to the suddenness of its invasion: In a considerable number, the inflammatory symptoms proceeded no further than they usually do in influenza or contagious catarrh. In some instances it attained a considerable degree of severity in a short time, and in several, the upper palpebræ became very suddenly swelled, so as to be raised with difficulty; in some, both palpebræ appeared as if stung by an insect, assuming an anasarcous appearance, attended with heat, pain, and sometimes throbbing, accompanied with a considerable discharge of coagulable lymph, which was indeed observable in most of the slightest cases, by pulling down the inferior palpebra. In the morning, matter was generally observed collected towards the inner canthus of the eye. In one case, a collection of matter took place in the superior palpebra of the left eye, which pointed afterwards, and was relieved by puncture with a lancet, No pain or inconvenience was in any instance felt from the free admission of light to the eye, nor did its exclusion tend to abate the symptoms, or accelerate the cure.

I know of no other probable cause for the appearance of this complaint in the regiment, than infection; but from what source it could have been derived I am at a loss to determine. Not one of the officers had it, nor any of the men of the Royal Lanark regiment, who were also in the castle, but in a separate barrack. Several of the patients who were admitted on the 22d were put into a ward where two men with ulcerated legs had accidentally remained, and the latter soon after became affected with the disease. Several of the hospital attendants had it, but very slightly. The men of the battalion who were in the habit of attending daily drill, and those who were not, appeared equally to receive the disease.

Every man was put on low diet, and had a purgative of submuriate of mercury and jalap exhibited; and his eyes were ordered to be washed with the following collyrium used warm.

℞ Muriat. hydr. gr. j.
Aquæ fervent. ℥iij. ß.
Tinct. opii vinos. ʒ ß.
Mucilag. g. arab. ʒ ß. misce.

In the slighter cases no further treatment was required; but when the inflammatory symptoms were severe, the tunica conjunctiva lining the inner surface of the palpebra was scarified, and care was taken to do it, so that as much blood as possible might be drawn, as the degree of relief obtained always corresponded with the quantity of blood poured out by the divided vessels; and whenever the blood did not flow freely, not only no good was afforded, but the inflammatory symptoms were increased. As soon as the bleeding had ceased, the tinct. opii. vinos. was dropped into the eye; this application caused acute pain, and a very copious flow of tears; the former usually subsided in a few seconds, leaving a considerable suffusion over the whole of the tunica conjunctiva, which, in the course of two or three hours, entirely disappeared, and the eye was left much less inflamed than at first, accompanied with a general alleviation of all the symptoms. The scarifications seldom required to be repeated more than twice, and oftener once was sufficient; and the earlier this mode of practice was employed, the more efficacious it proved in speedily removing the inflammation. During the whole course of the disease great attention was paid to keep the bowels open. The application of the tinct. opii vinos. in the first stage of the disease, when the inflammation was severe, in several instances increased it, although in the slight cases it was evidently of benefit. As it almost constantly happened, that the inflammation after quitting one eye attacked the other, in several cases; the unaffected eye was scarified, and the drops applied before any symptom of the disease appeared; and, in every instance when this was done, the latter escaped the complaint. During the whole course of the disease, besides the collyria, some stimulating application was generally employed to the eyes, either the tinct. opii vinos. or the unguentum hydr. nitrat. rub. as it frequently happened, that changing the stimulus was of evident advantage. Whenever the tarsi adhered during the night, the ointment was applied at bed time; and as long as they continued to do so, although the inflammation had perfectly subsided, the patients were not dismissed from the hospital. As soon as the active inflammation was gone, and the vessels still remained turgid with red blood, a collyrium of sulphate of zinc, with the addition of vinous tinct. of opium, was substituted for the first employed, and directed to be used cold.

Several modes of practice were employed, but none of them succeeded in removing the disease so quickly as that just described; and it is remarkable, that out of 163 cases of ophthalmia, not more than half a dozen of cases of relapse happened; and one was in a man, who was seized with a severe catarrh, which appeared to act as an exciting cause in bringing on a return of the inflammation, which was rather of the chronic than of the acute kind.

Scarification in ophthalmia has been disapproved of by many; but I am inclined to think, that an unfavourable opinion of it has often been formed, from its having been frequently performed with improper instruments, and probably not unfrequently at improper periods of the disease. A common lancet, as being an instrument most conveniently procured, has often been used for the purpose of scarifying; but I know, from experience, that the operation, when performed with a lancet, oftener does more harm than good. My friend, Mr James Wardrop, was so good as to give me an instrument, admirably adapted for the purpose, long employed by Dr Wardrop.

It consists of a straight blade, about one fifth of an inch broad, with parallel sides, and an obtuse slightly rounded cutting extremity. With an instrument of this form a number of vessels can be divided by drawing it slightly in different directions along the internal surface of the eye-lid, very readily, and without the least risk of making any deep puncture, or of wounding the eyeball.

As a mode of prevention, the whole men of the regiment were ordered to bathe their eyes with cold water, on going to bed, and on rising in the morning, *as well as at morning and evening parade*; very frequent inspections of companies were made during the day, and any men whose eyes had the smallest appearance of the disease were immediately sent to the hospital, where all the ophthalmia patients were locked up in separate wards, and prevented from having any communication with others.

It is a very prevalent opinion, among the Egyptians, that tying a bandage tight around the eyes, at night, is a preventative against ophthalmia, (their notion is, I believe, that the night air produces the disease.) Popular opinion, however, unless founded in some degree in truth, is seldom of long duration; and this appears to be of old date among them. I can affirm, that a number of officers and men who followed their advice in Egypt escaped the disease ; and, in the present instance, I requested the commanding officer of the Royals to give out an order, that every man should tie a bandage around his eyes in going to bed. The disease had, however, at that time begun to decline, therefore I am not able to determine accurately its effects ; but, at any rate, it is well worth the attention of any one who may hereafter meet the disease as an epidemic, as it can do no harm, is easily had recourse to, and may possibly do much good as a preventative ; and particularly, as the invasion of the disease is most commonly during the night, (probably from the contact of infected bed-clothes, &c.) the eyes would be completely protected against the application of any such exciting cause.

The history of this ophthalmia is interesting, as it shews how much the disease is modified from the particular climate where it appears. I have been informed, that an ophthalmia, such as has now been described, occurred among the troops at Stirling Castle, last spring. It was remarkable for the suddeness and number of men attacked, and also for its great mildness, when compared with the disease in Egypt, and even in England.

# THE INQUIRER. No. XI.

## *On some Convulsive Diseases common in certain parts of Scotland.*

In the Statistical Account of Scotland, there are dispersed many valuable materials for a medical topography of the northern division of the British Empire. The strong features which characterise the face of the country, as well as the moral habits of its population, afford an excellent opportunity of investigating the effects of both causes upon the physical constitution of the human species. In so extensive a field of inquiry, I shall, at present,

sent, confine myself to the history of some convulsive diseases, remarkable either for the singularity of their symptoms, or the manner of their propagation.

The first of these that I shall notice, is peculiar to a part of Forfarshire, and is called by the people of that district the *Leaping Ague*, and incorrectly by some medical men St Vitus's Dance. The parishes, in the Statistical Account of which it is noticed, lie all in the Synod of Angus and Mearns, viz. Lethnot (1), Menmuir (2), and Craig (3), in the Presbytery of Brechin; and Tannadice (4), in that of Forfar.

Those affected with it first complain of a pain in the head, or lower part of the back, to which succeed convulsive fits, or fits of dancing, at certain periods. During the paroxysm, they have all the appearance of madness, distorting their bodies in various ways, and leaping and springing in a suprising manner, whence the disease has derived its vulgar name. Sometimes they run with astonishing velocity, and often over dangerous passes, to some place out of doors, which they have fixed on in their own minds, or, perhaps, even mentioned to those in company with them, and then drop down quite exhausted. At other times, especially when confined to the house, they climb in the most singular manner. In cottages, for example, they leap from the floor to what is called the baulks, or those beams by which the rafters are joined together, springing from one to another, with the agility of a cat, or whirling round one of them, with a motion resembling the fly of a jack. Cold bathing is found to be the most effectual remedy; but when the fit of dancing, leaping, or running comes on, nothing tends so much to abate the violence of the disease, as allowing them free scope to exercise themselves, till nature be exhausted.

No mention is made of its being peculiar to any age, sex, or condition of life, although I am informed, by a gentleman from Brechin, that it is most common before puberty. In some families it seems to be hereditary; and I have heard of one, in which a horse was always kept ready saddled, to follow the young ladies belonging it, when they were seized with a fit of running. It is said, that the clattering of tongs, or any similar noise, will bring on a fit. By some, it is considered entirely as a nervous affection, and by others, as the effect of worms. In various instances, the latter opinion has been confirmed by facts.

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(1), Stat. Account, Vol. 4. page 5. By the Rev. Mr John Taylor.
(2), Stat. Account, Vol. 5. page 146. By the Rev. Mr John Waugh.
(3), Stat. Account, Vol. 2. page 496. By the Rev. Mr James Paton.
(4), Stat. Account, Vol. 19. page 273. By the Rev. Dr John Jamieson.

It was first observed in the parish of Menmuir, and has prevailed occasionally in that and the neighbouring parishes, for about seventy years; but is not now nearly so frequent as it was about thirty years ago.

The north part of the parish of Menmuir is hilly, and covered with heath; but towards the south and east it is flat and very fertile. The soil is a sandy clay, not very deep. The air is healthy, but cold, from the vicinity of the mountains, from which a chilling breeze often blows in summer, after sun-set. The low lands are marshy, and the air is moister. Many of the cottagers live comfortably, and the inhabitants are disposed to industry and economy. The most common diseases are said to be scrofula and slow inflammatory fever. Lethnot, including Navar, is surrounded by the Grampian Hills on all sides, except towards the east, where there is a small opening. The soil is various, clay, loam, and sand. High winds are frequent, and the most common diseases are inflammatory and pleuritic fevers, and scrofula. The people are frugal, sober, and industrious. It may not be superfluous to remark, that the sheep are subject to the braxy, a term applied to gastritis, enteritis, and other acute inflammations of the abdominal viscera.

The greatest part of Tannadice is also hilly or mountainous; the soil is clayey; and the air dry, cold in winter, but in general wholesome. Agues were very common formerly, but now the slow nervous fever may be considered as the characteristic distemper of the country. The people are in general very industrious.

Craig is surrounded on two sides by the sea, above which it is in general considerably elevated. The air is pure, the climate healthy. The most common diseases are fevers and consumptions; there are some instances of dysentery and rheumatism; agues are very rare; and a few cases of epilepsy and lunacy have occurred.

The history of this singular affection is still extremely imperfect; and it is only from some of the medical practitioners in that part of the country where it prevails, that a complete description can be expected. The facts known concerning it are too scanty to enable us to speculate with confidence concerning its nature, or causes.

In the situation and other local circumstances of the parishes in which it prevails, there is nothing peculiar; nor do the moral habits of the inhabitants differ from those of the neighbouring districts. It does not seem to be propagated from one individual to another. Why then is it confined to so small a district? No disease nearly resembling it is described, so far as I know, among the numerous species of convulsio, dæmonomania, melancholia, or tarantismus, enumerated by Sauvages. A case, however, in some respects resembling it in the singularity of the motions, lately attracted the notice of all the curious and superstitious in Edinburgh. The subject was a girl, a native of Edinburgh, under the age of puberty. Her complaints began with convulsions of the diaphragm and abdominal muscles, producing an action like retching, or something between hiccough and retching. Convulsions of the extremities supervened; and in the paroxysms, which lasted for several hours, she performed the most singular motions, at one time bounding upon her bed, then turning rapidly round and round as on an axis, then running round the outside of the ropes by which her hammock was suspended. She had several paroxysms in the course of the day, which came on at stated periods. These differed from each other considerably in their symptoms, but the series of each day nearly resembled the series of the others. In the intervals she was unable to move from weakness; and although she came the length of taking even a pint of laudanum in the course of a day, unless constantly rocked in her hammock, she did not enjoy a moment's respite from pain, which she referred to the region of the uterus. As her parents, after she attracted universal attention, accepted of money from the inquisitive, there might have been some suspicion of deception, had not the whole appearance of the girl, the dislocation of one of her shoulders, from the violence of the convulsions, and lastly her death, notwithstanding every assistance which medicine and even exorcism could bestow, sufficiently proved the reality of the disease. Her body was examined after death; but nothing was discovered which could at all explain the nature of the disease. Some time before she was first affected, she had a pretty severe fall on her head.

In the history of the symptoms of leaping ague of Angus, the most singular circumstance is that the muscular motions during the paroxysm, so far from being involuntary, are performed with greater agility and exactness than at any other time. Those affected, run with greater velocity, leap with greater vigour, and do feats which even professed tumblers could not equal, balancing the body with correctness, and dexterously avoiding dangers. There appears then to be, during the fit, perfect consciousness, and a complete command of the will over the muscles. It may be said to consist in a morbid propensity to running, leaping, or tumbling, which the patient is unable to resist. The cause of the propensity, I confess, I cannot even conjecture; but it is not more obscure than the cause of any other capricious desire or aversion, than the motives which every day prompt men to perform actions, knowing them to be ridiculous or improper; or, as Reil* expresses himself, "Should we not arrange those cases here as slighter degrees of the same state, in which absurd ideas involuntarily occur to healthy people, incessantly excite them, and are accompanied by an irresistible propensity to action?"

Dr Whytt long ago noticed the frequency of convulsions in Zetland, and he adduced the extreme facility with which they were propagated among the young women of that island as a proof of the existence of a wonderful sympathy between the nervous systems of different individuals, by means of which, various motions and morbid symptoms are often transferred from one to another, without any corporeal contact or infection. I have lately had the good fortune to meet with a more particular account of the progress of this disease in that remote part of the kingdom, in a very valuable manuscript account of the Orkney and Shetland islands, drawn up about 1774 by George Low, and rendered still more interesting by the addition of notes and corrections in the hand-writing of Mr Pennant. The facts were communicated to Mr Low by the Reverend Mr William Archibald, parochial clergyman of Unst, the most northerly of the Shetlands.

"There is a shocking distemper, which has of late years prevailed pretty much, especially among young women, and was hardly known 30 or 40 years ago. About that period only one person was subject to it. The inhabitants gave it the name of convulsion fits; and, indeed, in appearance, it something resembles an epilepsy. In its first rise, it began with a palpitation of the heart, of which they complained for a considerable time; it at length produced swooning fits, in which people seized with it would lie motionless upwards of an hour. At length, as the distemper gathered strength, when any violent passion seized, or on a sudden surprise, they would all at once fall down, toss their arms about, with their bodies into many odd shapes, crying out all the while most dismally, throwing their heads about from side to side, with their eyes fixed and staring. At first, this distemper obtained in a private way with one female, but she being seized in a public way at church, the disease was communicated to others, but whether by the influence of *fear* or *sympathy* is not easy to determine. However this was, our public assemblies, especially at church, became greatly disturbed with their outcries. This distemper always prevails most violently during the summer-time, in which season, for many years, we are hardly one Sabbath free. In these few years past, it has not prevailed so extensively,

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* Reil's Fieberlehre, Vol. IV. p. 626.

tensively, and, upon the whole, seems on the decline. One thing remarkable in this distemper is, that as soon as the fit is over, the persons affected with it are generally as lively and brisk as before; and if it happens at any of their public diversions, as soon as they revive, they mix with their companions, and continue their amusement as vigorously as if nothing had happened. Few men are troubled with this distemper, which seems more confined to women; but there are instances of its seizing men, and girls of six years of age. With respect to the nature of this disease, people who have made inquiry about it differ, but most imagine it hysterical; however, this seems not entirely the case, as men and children are subject to it; however, it is a new disease in Shetland, but whence imported none can imagine."

When the statistical account of this parish was published *, this awful and afflicting disease was becoming daily less common. In the parishes of Aithsting, Sandsting †, and Northmaven ‡, in which it was once very frequent, it was now totally extinct. In the last of these, the cure is said to have been effected by a very singular remedy, which, if true, and there seems no reason to doubt it, shews the influence of moral causes in removing, as well as inducing convulsive disorders. "The cure is attributed to a rough fellow of a kirk-officer, who tossed a woman in that state, with whom he had been frequently troubled, into a ditch of water. She was never known to have the disease afterwards, and others dreaded the like treatment."

It, however, still prevails in some of the northern parishes, particularly in Delting §, although, according to the description given of it, with some alteration in its symptoms.

"Convulsion fits of a very extraordinary kind seem peculiar to this country. The patient is first seized with something like fainting, and immediately after utters wild cries and shrieks, the sound of which, at whatever distance, immediately puts all who are subject to the disorder in the same situation. It most commonly attacks them when the church is crowded, and often interrupts the service in this and many other churches in the country. On a sacramental occasion, 50 or 60 are sometimes carried out of the church, and laid in the church-yard, where they struggle and roar with all their strength for five or ten minutes,

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* Unst, by Thomas Mouat of Garth, Esq.; and the Reverend Mr James Barclay. Stat. Account, Vol. V. p. 199. 1793.

† By the Reverend Mr Patrick Barclay. Stat. Account, Vol. VII. p. 582. 1793.

‡ By the Reverend Mr William Jack. Stat. Account, Vol. XII. p. 363. 1794.

§ By the Reverend Mr John Morrison. Stat. Account, Vol. I. p. 385. 1791 and then rise up without recollecting a single circumstance that happened to them, or being in the least hurt or fatigued with the violent exertions they had made during the fit. One observation occurs on this disorder, that during the late scarce years it was very uncommon, and during the two last years of plenty, it has appeared more frequently."

The surface of Unst, in comparison with the other Shetland islands, is reckoned level; nevertheless, it is diversified with moderately high hills. The island is intersected by no rivers, but contains many small fresh water lakes. The people are hardy and industrious; the men are almost all fishermen, and every woman manufactures fine woollen stockings. Consumptions and rheumatic complaints have lately become much more frequent than formerly.

The other parishes in which this disease is noticed, are all on the mainland of Zetland. The air is moist and foggy, but not unhealthy; the climate is temperate and equable, the winters being milder, and the heats of summer less, than in any other part of Britain, but high and sudden winds are frequent. The people live very much upon the coal-fish, dried without salt, (piltocks), and scarcely use bread or vegetables. Of late, they have become much attached to tea, and what they get is generally very coarse, and drunk very strong, without milk or sugar. In Aithsting, affections of the liver are said to be the most common complaint, and in Delting, scurvy; but, in all of them, rheumatism and nervous complaints, or cramps, are said to be frequent. Among the lowest class of people, a species of leprosy or elephantiasis is also observed, which generally proves fatal, although, when taken early, there are instances of its being cured. It does not seem to be infectious, but it is supposed to be hereditary.

One curious observation naturally suggests itself, that epilepsy has become less common in proportion as the general health of the people has diminished. If under nervous complaints and cramps, they understood hysterical symptoms, it would seem as if the greater or less tone of the system had a tendency to give to convulsive affections the characters of epilepsy or hysteria.

Similar instances of epidemical convulsions are already upon record; but the history of that which occurred in Anglesea, North Wales, is the most remarkable, as its progress was, in all probability, checked by the judicious precautions recommended by Dr Haygarth *.

In 1796, on the estates of the Earl of Uxbridge and Holland Griffith,

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* Of the Imagination as a Cause and as a Cure of Disorders of the Body, By John Haygarth, M.D. 8vo. Bath, 1800.

Griffith, Esq. twenty-three females, from 10 to 25, and one boy of about 17 years of age, *who had all intercourse with each other*, were seized with an unusual kind of convulsions, affecting only the upper extremities. It began with pain of the head, and sometimes of the stomach and side, not very violent; after which there came on violent twitchings or convulsions of the upper extremities, continuing with little intermission, and causing the shoulders almost to meet by the exertion. In bed the disorder was not so violent; but, in some cases at least, it continued even during sleep. Their pulse was moderate, the body costive, and the general health not much impaired. In general they had a hiccough; and, when the convulsions were most violent, giddiness came on, with the loss of hearing and recollection. During their convalescence, and they all recovered, the least fright or sudden alarm, brought on a slight paroxysm.

Dr Haygarth, who was consulted on the means of relieving these unfortunate people, successfully recommended the use of antispasmodics; that all girls and young women should be prevented from having any communication with persons affected with those convulsions, and that those who were ill should be kept separate as much as possible.

The influence of sympathy, in propagating convulsive diseases, was still more strongly exemplified in the epidemic which occurred in the parish of Cambuslang in Lanarkshire, in 1742, during the ministry of Mr M'Culloch. In this instance, religious enthusiasm was the exciting cause of the disease, and violent affections of the body were produced by strong impressions made on the mind. But it has been so well described by the Reverend Dr Meik *, that I cannot do better than quote his own words.

"The kirk of Cambuslang being small, and in bad repair, the minister, when the weather was favourable, used to preach in a tent, erected close by a rivulet, at the foot of a bank or brae near the kirk, which is still called "the preaching or conversion brae." No place could be better formed by the hand of nature for field preaching; as the brae rises gradually from the place where the tent stood, in the form of an amphitheatre, so that every person in the audience could see and hear the preacher distinctly. Mr M'Culloch, for about a year before this work began, had preached on the doctrine of regeneration; and, upon the Sabbath evenings after sermon, frequently read to his hearers, missives, attestations, and journals, he had received from his correspondents, giving an account of conversions which had taken place in different parts of the world, especially in New England under Mr Whitefield's ministry. These missives, attestations, and journals, were at the same time published weekly at Glasgow, in halfpenny pamphlets; and had an extensive circulation in this and the neighbouring parishes. The fruits of these instructions were a more than ordinary concern about religion. Towards the end of January 1742, two persons, Ingram More, a shoemaker, and Robert Bowman, a weaver, went through the parish, and got about 90 heads of families to subscribe a petition, which was presented to the minister, desiring that he would give them a weekly lecture. This petition the minister readily granted, and Thursday was fixed upon as the most convenient day of the week for that purpose. On the two first Thursdays, after the lecture was over, some persons came to the minister's house, much concerned about their spiritual interest; but the number was not great. On Monday 15th February, and the two following days, all the fellowship meetings in the parish convened in one body in the minister's house, and were employed for many hours in fervent prayer for the success of the gospel, and for an outpouring of the Holy Spirit in their bounds, as in other places abroad: The next day, being Thursday 18th February, nothing remarkable happened during the lecture, except that the hearers were apparently all attention: but when the minister in his last prayer expressed himself thus: 'Lord who hath believed our report; and to whom is the arm of the Lord revealed? where are the fruits of my poor labours among this people?' several persons in the congregation cried out publicly, and about 50 men and women came to the minister's house, expressing strong convictions of sin, and alarming fears of punishment. After this period, so many people from the neighbourhood resorted to Cambuslang, that the minister thought himself obliged to provide them with daily sermons or exhortations, and actually did so for seven or eight months. The way in which the converts were affected, for it seems they were affected much in the same way, though in very different degrees, is thus described. They were seized all at once, commonly by something said in the sermons or prayers, with the most dreadful apprehensions concerning the state of their souls, insomuch that many of them could not abstain from crying out, in the most public and frightful manner, 'bewailing their lost and undone condition by nature; calling themselves enemies to God, and despisers of precious Christ; declaring that they were unworthy to live on the face of the earth; that they saw the mouth of hell open to receive them, and that they heard the shrieks of the damned;' but the universal cry was, '*what shall we do to be saved?*' The agony under which they laboured, was expressed not only by words, but also by violent agitations of body; by clapping their hands and beating their breasts; by shaking and trembling, by faintings and convulsions; and sometimes by excessive bleeding at the nose. While they were in this distress, the minister often called out to them, not to stifle or smother their convictions, but to encourage them; and, after sermon was ended, he retired with them to the manse, and frequently spent the best part of the night with them in exhortations and prayers. Next day, before sermon began, they were brought out, and having napkins, tied round their heads, were placed all together on seats before the tents, where they remained sobbing, weeping, and often crying aloud, till the service was over. Some of those who fell under conviction were never converted; but most of those who fell under it were converted in a few days, and sometimes in a few hours. In most cases their conversion was as sudden and unexpected as their conviction. They were raised all at once from the lowest depth of sorrow and distress, to the highest pitch of joy and happiness; crying out with triumph and exultation, ' that ' they had overcome the wicked one; that they had gotten hold of ' Christ, and would never let him go; that the black cloud, which had ' hitherto concealed him from their view, was now dispelled; and that ' they saw him with a pen in his hand blotting out their sins.' Under these delightful impressions, some began to pray and exhort publicly; and others desired the congregation to join with them in singing a particular psalm, which they said God had commanded them to sing. From the time of their conviction to their conversion, many had no appetite for food, or inclination to sleep, and all complained of their sufferings during that interval*. This singular work soon became public, made a great noise, and brought vast numbers of people from all quarters. The minister, who at first was assisted chiefly by preachers in the neighbourhood, soon got abundance of assistance from his brethren; some of whom came at his desire, and others of their own accord. Among those who resorted to Cambuslang on this occasion, there were many of the most popular ministers in Scotland; such as, Messrs. Willison of Dundee, Webster of Edinburgh, M'Knight of Irvine, M'Laurin of Glasgow, Currie of Kinglassie, Bonner of Torphichen, Robe of Kilsyth, &c. Mr Whitefield, who had been in England for ſeveral months, did not arrive till June. The sacrament was given twice in the space of 5 weeks, viz. on 11th July and 15th August. Immense multitudes of hearers and ſpectators were present, at both, but especially at the last. On the Sunday, besides the tent at the foot of the brae above described, where the sacrament was dispensed, other two tents were erected. At each of theſe there was a very great congregation. Mr Whitefield, who was accustomed to numerous audiences, supposed, that, at the three tents, there were upwards of 30,000 people; a greater number probably than was ever ſeen on any other ſacramental occasion. Most of the above mentioned ministers and others were assistants at this solemnity. Four preached on the fast-day, 4 on Saturday, probably 14 or 15 on Sunday, and 5 on Monday. There were 25 tables, about 120 at each, in all 3000 communicants. A great many of these came from Glasgow and the neighbourhood, about 200 from Edinburgh, about 200 from Kilmarnock, about 200 from Irvine and Stewarton, and some from England and Ireland. ' But," says Mr M'Culloch, " what was most remarkable was ' the ſpiritual glory of this solemnity; I mean the gracious and sensible ' presence of God. Not a few were awakened to a sense of sin, and ' their lost and perishing condition without a Saviour; others had their ' bands loosed, and were brought into the marvellous liberty of the sons ' of God. Some declared that they would not for a world have been absent from this solemnity. Others cried, now let thy servants depart in ' peace from this place, since our eyes have seen thy salvation here.

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* Some women who had born children declared, that, while they were under conviction, they endured *more bodily pain* than they had ever done in *child-bearing*.

The Cambuslang work continued for about 6 months, that is, from the 18th February till the second communion. Few or none were convicted or converted after this last period. The daily preachings and exhortations, except the weekly lecture, ceased. Public worship, however, was kept in the open fields till the month of November, when the inclemency of the weather rendered it necessary to repair to the kirk. The number of persons convicted and converted during this period, cannot be ascertained with accuracy. The former are said to have been by far the greatest number. In a letter of Mr M'Culloch's to Mr Robe, dated 30th April 1751, after acknowledging and bewailing the many backsliders, he asserts, that he had then in his possession a list of about 400 awakened at Cambuslang in 1742, who from that time to the time of their death, or the date of his letter, had been enabled to behave in a good measure as became the gospel. About 70 of these 400 were or had been inhabitants of Cambuslang." p. 267–70.

" To what cause this memorable work ought to be ascribed, was a question which occasioned much debate and great diversity of opinion. Some ascribed it to the influence of the Holy Spirit; others to the influence of the devil; and others to the influence of fear and hope, of sympathy and example, aided by peculiar circumstances. Those who entertained the two first opinions, agreed in thinking that this work ought to be ascribed to supernatural agency, but differed widely as to the agent to whom it ought to be attributed; the one considering the agent as the best of beings, and the other as the worst. Those who entertained the last opinion, thought this work might be accounted for by natural causes, and consequently that there was no occasion for having recourse to supernatural agency." p. 271.

" That the work at Cambuslang ought to be ascribed neither to the influence of the Holy Spirit, nor to the influence of the devil, but to the influence of fear and hope, of sympathy and example, aided by peculiar circumstances, was the general opinion of those, who are known in the Church of Scotland, by the name of the Moderate party. The only extraordinary circumstance relating to this work, is the external effects on the bodies of men, by which it manifested itself; and these, they thought, might be sufficiently explained by the operation of natural causes. The soul and body, they observed, are so intimately connected, that they mutually sympathise with each other, and whatever gives pleasure or pain to the one, gives likewise pleasure or pain to the other. All the passions of the mind, especially those which are of a violent nature, discover themselves by some corresponding outward expression. When an event, whether joyful or sorrowful, is communicated in such an interesting manner as to affect our minds strongly, it will also affect our bodies in proportion. As this is the case with regard to such of men's concerns as are present and temporal, is it not reasonable that it should also be the case with regard to such of them as are future and eternal? If they be deeply affected by the preaching of the word; if, on the one hand, their fears be alarmed by the threatenings of the law, and the dread of everlasting punishment; or if, on the other hand, while in this wretched situation, their hopes be elevated by the assurance of pardon, and the prospect of eternal happiness; is it not natural that the feelings of their minds should discover themselves both by their words and actions? The sermons preached at Cambuslang, during this memorable work, it is alledged, were addressed, not to the undertandings of the hearers, but to their imaginations and passions; and especially to the passions of fear and hope. 'Their lost and undone condition by nature was represented 'in a manner the most awful and alarming. They were brought to 'Mount Sinai, where thunder roars and lightnings flash. They were 'encouraged by the gracious promises of the gospel, by the consolations 'which are in Jesus, and the wonders of his grace. They were conducted to Mount Calvary, and exhorted to behold, with the eye of 'faith, the healing virtues which flowed from the wounds of their Saviour expiring upon the cross.' The natural tendency and effects of these instructions were aided and strengthened by peculiar circumstances. The opinions of the Methodists, respecting the sensible operations of the Spirit of God in the work of regeneration; the sudden and almost instantaneous conversions, which took place under Mr Whitefield's ministry, were well known at Cambuslang. Mr M'Culloch was a great admirer of Mr Whitefield, and employed him repeatedly to preach in his pulpit. He frequently discoursed on the wonderful conversions in New England; and was at great pains to communicate to his people the papers which gave an account of them. In this task he was successfully assisted by More and Bowman *. They themselves had been converted by Mr Whitefield; and were ever ready to describe the manner in which they had been affected, to those who were disposed to listen to them.

"That this preparation gave rise to the work at Cambuslang, they asserted, was manifest; because the persons convicted and converted there were affected in the same manner, and expressed themselves in the same words with those who were convicted and converted in New England: A fact which can no otherwise be accounted for, than by supposing that the manner and language of the latter were perfectly familiar to the former. When this work was once begun, they maintained, that the effects of sympathy and example sufficiently explain its future progress. Every day's experience shows, that we are disposed to imitate the actions of others, and that we are naturally, and, as it were, mechanically moved by seeing them, either in the depth of distress, or in the height of exultation. The operation of these principles was visible almost in every instance. Whenever any one was affected, many others were affected in a similar manner. Whenever any one cried aloud, either through excessive grief or joy, but especially the former, many others cried aloud likewise, using the same words, or words of the same meaning. When all

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* The following fact, related by the one party, and not contradicted by the other, is thought to place the character of More and Bowman in a very suspicious light. When any person was affected in time of sermon, they were always at hand to give their assistance. One day when a woman who had fainted began to revive, Bowman says to her, "Christ is just a-coming; He is on the way; He will not tarry:" and a little after More added, "Do you hear the sound of his chariot wheels?" Upon which the woman got up, in a transport of joy, crying, "He is come! I have got him, and will not let him go!"

all these concurring circumstances were taken into consideration, they thought it by no means surprising, that there should be some hundreds of converts among the many thousands who attended at Cambuslang, during the course of seven or eight months." p. 272-4.

The very interesting nature of this quotation will, I trust, sufficiently apologize for its length, as I must trespass still farther on the indulgence of the readers of this Journal, by inserting by far the best account yet published *, of a similar epidemic which occurred in the western states of America, with which I shall conclude this collection of facts, reserving some speculations which they have suggested, to another opportunity.

"The Chorea, which is more particularly the subject of this dissertation, made its appearance during the summer of 1803, in the neighbourhood of Maryville (Tennessee), in the form of an epidemic. Previously to entering on its history, I think it necessary to premise a few cursory remarks on the mode of life of those amongst whom it originated, for some time before the appearance of the disease.

"I suppose there are but few individuals in the United States, who have not at least heard of the unparallelled blaze of enthusiastic religion which burst forth in the western country about the year 1800; but it is perhaps impossible to have a competent idea of its effects, without personal observation. This religious enthusiasm travelled like electricity, with astonishing velocity, and was felt, *almost instantaneously*, in every part of the states of Tennessee and Kentucky. It often proved so powerful a stimulus, that every other entirely lost its effect, or was but feebly felt. Hence that general neglect of earthly things, which was observed, and the almost perpetual attendance at places of public worship. Their churches are, in general, small, and every way uncomfortable; the concourse of people on days of worship, particularly of extraordinary meetings, was very numerous, and hundreds who lived at too great a distance to return home every evening, came supplied with provisions, tents, &c. for their sustenance and accommodation, during the continuance of the meeting, which commonly lasted from three to five days. They, as well as many others, remained on the spot day and night, the whole or greater part of this time, worshipping their Maker almost incessantly. The outward expressions of their worship consisted chiefly in alternate crying, laughing, singing, and shouting, and, at the same time, performing that great variety of gesticulation, which the muscular system is capable of producing.—It was under these circumstances, that some found themselves unable, by voluntary efforts, to suppress the contraction of their muscles; and to their own astonishment, and the diversion of many of the spectators, they continued to act from *necessity*, the curious character which they had commenced from *choice*.

"The disease no sooner appeared, than it spread with rapidity, through the medium of the principle of imitation: thus it was not uncommon, for an affected person to communicate it to a greater part of a crowd, who, from curiosity or other motives, had collected around him. It is at this time, in almost every part of Tennessee and Kentucky, and in various parts of Virginia, but is said not to be contagious, (or readily communicated), as at its commencement. It attacks both sexes, and every constitution, but evidently more readily those who are enthusiasts in religion, such as those above described, and females; children of six years of age, and adults of sixty, have been known to have it, but a great majority, of those affected, are from fifteen to twenty-five. The muscles generally affected, are those of the trunk, particularly of the neck, sometimes those of the superior extremities, but very rarely, if ever, those of the inferior. The contractions are sudden and violent, such as are denominated convulsive, being sometimes so powerful, when in the muscles of the back, that the patient is thrown on the ground, where for some time, his motions more resemble those of a live fish, when thrown on land, than any thing else to which I can compare them.

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* An Inaugural Essay on Chorea Sancti Viti. By Felix Robertson of Tennessee. 8vo. Philadelphia. 1805.

" This, however, does not often occur, and never, I believe, except at the commencement of the disease. The patients, in general, are capable of standing and walking, and many, after it has continued a short time, can attend to their business, provided it is not of a nature requiring much steadiness of body. They are incapable of conversing with any degree of satisfaction to themselves or company, being continually interrupted by those irregular contractions of their muscles, each causing a grunt, or forcible expiration; but the organs of speech do not appear to be affected, nor has it the least influence on the mind. They have no command over their actions by any effort of volition, nor does their lying in bed prevent them, but they always cease during sleep *. This disease has remissions and exacerbations, which, however, observe no regularity in their occurrence, or length of duration. During the intermission, a paroxysm is often excited at the sight of a person affected, but more frequently by the common salute of shaking hands. The sensations of the patients in a paroxysm are generally agreeable, which the enthusiastic class often endeavour to express, by laughing, shouting, dancing, &c.

" Fatigue is almost always complained of after violent paroxysms, and sometimes a general soreness is experienced. The heart and arteries appear to be no further affected by the disease, than what arises from the excercise of the body; nor does any change take place in any of the secretions or excretions. It has not proved mortal in a single instance within my knowledge, but becomes lighter, by degrees, and finally disappears †. In some cases, however, of long continuance, it is attended with some degree of melancholia, which seems to arise entirely from the patient's reflections, and not directly from the disease. The state of the atmosphere has no influence over it, as it rages with equal violence in summer and winter; in moist and in dry air."

PART

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[*] I have lately been informed, that some have been known to have them during sleep; but have not been able to learn whether or not, previous to having the disease, they were subject to muscular motions, during this period. I think it is very probable they were.

[†] Some who took the disease in 1803, have not yet (1805) entirely got rid of it; but these instances, of its long continuance, are very few.

# PART II.

## CRITICAL ANALYSIS.

### I.

*Description des Maladies de la Peau, observées à l'hopital Saint Louis, et Exposition des meilleures methodes suivies pour leur traitement. Avec Figures colorées.* Par J. L. ALIBERT, Medecin de cet Hopital, et du Lycée Napoleon, Membre de la Société de l'Ecole et de celle de Medecine de Paris, de l'Academie Royale de Medecine de Madrid, de l'Academie Imperiale des Sciences, Belles Lettres et Arts du Turin, de College de Medecine de Stockholm, &c. &c. Folio. à Paris. 1806. 1ere et 2de Livraison.

OF this splendid and expensive work, some time ago announced, we have at length received the first and second numbers, containing the description and treatment of two genera, *Tinea* and *Plica*. An early notice of these must be acceptable to our readers; and, in the order of the arrival of the other numbers, we shall continue to give such an account of their contents, as the novelty and importance of the subjects treated of may seem to require.

Before entering into particulars, it will be necessary to say a few words on the general plan and execution of this publication.

In a preliminary discourse, the author states the difficulties he had to encounter, magnifies the importance of his undertaking, and loads himself with the most indecorous praise. He has entered a desert where few have penetrated before him; no preceding work has served him as guide; every thing was new to observation, and every thing a problem to the understanding. He himself has opened the path which he pursues; " judge then," he says, " of the obstacles over which I must have triumphed." Such is the style of egotism with which M. Alibert prepares his reader for the wonders he is to relate.

It is true, indeed, that no one has before pursued this tract with such state and magnificence as M. Alibert; but guides, and good ones too, were not wanting, whose assistance a less fastidious and self-important traveller would have welcomed, and gratefully acknowledged. If he found himself surrounded with difficulties, if involved in a labyrinth of contradictions, it cannot be doubted that he had useful land-marks in the descriptions left us by the Greek and Arabian physicians, and in the writings of his own countrymen, who have not altogether neglected the observation of cutaneous diseases. If he mean, that no one had before him attempted a complete system of the diseases of the skin, we would remind him of the learned work of Lorry, a book in the hands of every Frenchman. If he mean, that no one had before him, called in the aid of the pencil of the artist, to delineate and fix the characters of those diseases, we would refer him to the work of our ingenious Willan. If he mean, that no modern physician, warned by the confusion which had crept into this department of nosology, had yet ventured to open anew the book of nature, and to describe and reason from actual observation, we would still remind him of Willan, whose book has long since found its way to France.

It is not a mere gust of vanity *en passant*, a thing pardonable in a Frenchman, that we thus expose. It taints the whole of the pages, which we have yet had an opportunity of perusing; and this unwillingness to obligation is, we apprehend, the source of some faults in the general execution of the work. There are no references to the descriptions and nomenclature of other writers. He has neither given synonymes, nor by criticisms endeavoured to unravel the confusion, or reconcile the discrepancies which have obscured the history of cutaneous diseases, and thus to connect his own with the descriptions of others.

He has not prefaced his particular descriptions by any general analysis, or classification of the diseases of which he is to treat; he has not given precision to those descriptions, by fixing, like Willan, the sense of the terms employed, by proper definitions; nor has he delineated the elementary morbid appearances of the cutaneous system: In all these particulars, the plan of Alibert is defective. To supply these, however, every species described is represented by a highly finished coloured engraving. The richness and beauty of these engravings, will not be disputed. But we may safely question the taste and propriety of exhibiting together, the glowing tints of ruddy health and beauty with the disgusting representation of scald heads, or the utility of so much finery and expense to furnish blocks for the representation of plica, of the hair convoluted and matted together into parcels or separate locks; as correct an idea of which might have been suggested to the reader, by simply referring him to a mop *, or

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* Plica caput Medusæ.

to the figure of the Mandarin * on his china cup. In short, comparing these with the engravings in Willan, we remark, that if in splendor and general effect the French artist has excelled, the British artist has some advantage in the minute and accurate delineation of the characteristic shades of disease.

In the preliminary discourse already referred to, we are likewise presented with a general exposition of the various objects which engaged the author's attention in the progress of his observations at the Hospital of St Louis, and of the different points of view in which he has studied the phenomena of cutaneous diseases. Such are the influence of age, sex, temperament, climate, and the seasons, on these diseases; the occasional causes which contribute to their production; observations of certain physiological phenomena, (as the sympathies of different organs), illustrated by the knowledge of the diseases of the skin; and general reflections on the methods of treatment. But on these, it is unnecessary to fix our attention in this place, as the particular developement and application of such observations will reappear in the history of those diseases to which they refer.

In the description of the diseases of the skin, the general plan of our author seems to be, first to describe the different species of a genus, and then to give the general history of the genus itself, treating, in distinct sections, of the phenomena which mark the progress of the disease; of the causes; of the seat of the disease; of the results furnished by the inspection of dead bodies; of the results furnished by chemical analysis; and, of the internal and external treatment employed in the cure.

We shall now lay before our readers, an analysis of Alibert's account of tinea and plica.

### TINEA.

1. *Tinea Favosa.* The crusts of this form tubercles of a yellow colour, sometimes isolated and circular, sometimes heaped together, forming large plates on the hairy scalp; the centre depressed in a cup-like form, and the edges projecting, so as to give them some resemblance to the cells of honey-comb.

This species commonly begins by small pustular itchy erruptions, yielding a purulent matter, which drying, occasions the formation of crusts, or excavated tubercles. The base of these tubercles is deeply buried in the skin, so that M. Alibert assures us, he has never been able to separate them from the scalp without injuring it, and producing a more or less copious flow of blood. The scalp itself, in the progress of the disease, is liable to give way in chops, and these pour out an icherous or purulent matter, which farther corrodes and destroys the skin, sometimes even the bony substance of the cranium. The tinea favosa is not always confined to the scalp; it appears sometimes on the forehead, temples, shoulders, elbows, and fore-arm, and even on the loins, knees, and upper part of the legs. The horrid itching which attends this disease, and its loathsome appearance, are often increased by the prodigious number of lice which breed under the crusts. The odour exhaled by the tinea favosa is very peculiar, and much resembles, according to the observation of our author, that of the urine of cats, or of a chamber infested with mice. When by means of cataplasms and lotions, the crusts have been softened and removed, the appearance of the reticular tissue is found red and erysipelatous, the epidermis is destroyed, and numerous ulcerations are observed, discharging a yellow, viscous, fetid fluid. Small abscesses also are perceived on a level with the skin, of a lenticular form, scattered here and there as so many centres of inflammation. If the disease be neglected, the hairs become destroyed in their roots, and a complete alopecia is not unfrequently the consequence.

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* Plica Longicauda.

2d sp. *Tinea Granulata.* The crusts of which form small tubercles or grains, of a grayish or brownish colour, and of irregular and unequal figures. These tubercles or grains, having neither depression nor excavation of the centre, are perfectly distinguished from the preceding.

This species is seldom so generally spread over the scalp. It commonly occupies the superior and posterior part of the head. It is composed by small brownish or gray-coloured crusts, somewhat resembling the fragments of mortar, or of the plaster which falls from old walls, crumbled, and fouled with dust and moisture. They are very hard, and not easily softened by cataplasms. They are more distinct, and less deeply connected with the substance of the skin, than the crusts of the favosa. The odour of this species, when not very dry, is also different, resembling that of rancid butter. The skin beneath the crusts is red and erythematous. Small white abscesses may be perceived, exuding a viscous colourless liquid, which rises and forms crusts perfectly similar to those which have fallen off. The tinea granulata attacks the head only; Alibert, however, has seen it also, though rarely, on the forehead, eyebrows, and sides of the nose: It seldom occurs in adults; twice, however, he has met with the disease in girls after puberty.

3d sp. *Tinea Furfuracea.* Forming not crusts, but white furfuraceous scales, more or less thick; sometimes humid, and adhering to the hair by means of a viscous fetid discharge; sometimes dry and friable, and easily detached from the head.

It begins by a slight desquamation of the epidermis, accompanied often with a violent itching. A discharge, at the same time, takes place from the reticular membrane, of an ichorous matter, which sticks to the hair, and oozing, forms scales which, accumulating in superincumbent layers, appear outwardly of a whitish, and sometimes reddish colour, resembling a heap of bran or coarse flour. These scales, when perfectly dry, fall easily off; and the parts below are found deprived of their epidermis, and of a reddish colour, with a polished, glossy surface. The tinea furfuracea is not always confined to the scalp. He has seen it advance over the forehead as far as the eyebrows, forming plates resembling heaps of bran or of snow, from the great whiteness of the scales. He has never found it on any other part of the body. It is attended with great itching, and is often infested with lice. A degree of inflammation is observed on the surface, with little vesicles, and ulcerations exuding a glutinous matter, having the odour of sour or putrid milk. It never attacks adults, but often children, even after the seventh year.

4th sp. *Tinea Asbestina.*—Tinea forming shining argentine scales, which, by their concretion, encrust and unite the hair in bands, the silky shining appearance of which bears a striking resemblance to amianthus.

This species our author claims the merit of having first described, and it is, he thinks, the most easy to distinguish. It commonly occupies the superior and anterior part of the head, and is characterised by very fine small scales, of a silvery or pearly colour, which surround the hairs, having no small resemblance to that fine transparent pellicule which surrounds the feathers of young birds, or to the amianthus of naturalists. When the hair is removed by the scissars, the skin appears furrowed, red, and inflamed, though less so than in the preceding species. It is also less itchy, and, being commonly dry, exhales no particular odour.

5th sp. *Tinea Muciflua.* Yellow crusts, which are easily detached from the scalp, or a mucous matter which encrusts and glues the hair in masses or layers.

It is distinguished by superficial ulcerations, which attack the hairy scalp of children, and also the forehead, temples, and ears, and sometimes the trunk, the arms, and thighs; as our author has observed, in several instances, at the hospital of St Louis. These ulcerations discharge a mucous matter, of the appearance of corrupted honey. In some cases, they dry and form ash coloured crusts, sometimes yellow, or of a greenish tinge. The ulcerations commence variously, by large or small pustules, by vesicles containing a transparent fluid of a light yellow colour, or by acute abscesses, and distentions of the scalp, so painful,

ful, that it has sometimes been necessary to open them with the bistoury. The pustules or vesicles burst spontaneously, or by the nails of the child; and the thick fluid which is discharged, forms soft crusts of a straw-colour, tinged often with red. There is often a profuse flow of mucus from the nose, obstructing the free respiration of the child. In some places of the head, instead of pustular ulcers, the scalp is heaved up, and the cellular texture swells into irregular tumours. These gradually subside in consequence of the rupture of neighbouring vesicles, or they sometimes advance to suppuration. The ears, in some cases, swell prodigiously; and the face is suffused with heat, redness, and tension. The itching is very great. The hair falls off. The skin appears red, but the inflammation is more supperficial than in the other species of tinea. The texture of the skin is shining, its surface always moist, and often covered with a caseous mucus. The odour exhaled resembles sour milk.

It has been observed by Alibert, that when the crusts dry, and the flow of mucus ceases, the little patients are dull, taciturn, restless, and unwell; and, on the contrary, when the discharge is profuse, when it moistens, and penetrates every part of the scalp, that joy appears depicted in their countenance, and all the functions are performed with perfect regularity.

After describing the species, our author, agreeably to the plan which he follows, proceeds to the general history and treatment of the disease. One of the most curious facts observed by him, is the influence of tinea, in its aggravated and protracted form, on the developement of the sexual organs. One young man, who had laboured under tinea favosa from his birth, at the age of 21 had no signs of virility; the organs were imperfectly developed, the pubis was without hair, and the voice weak and clear like that of a child. The nails also are sometimes diseased in some individuals affected with favi; especially when it has continued after puberty, they become deformed, discoloured, and softened; and when cut, in one young girl, a glutinous humour exuded, similar to that discharged from the head. Of the different species, the tinea favosa appears, from the observations of Alibert, to be by far the most common, the amiantacea the most rare. The tinea granulata occurs more frequently than the furfuracea. The muciflua is very common in great cities, and occurs chiefly during the period of nursing. The other species are seldom seen during lactation. It is between the second and seventh year that children are most liable to be attacked with tinea. With regard to the organic causes of tinea, our author, in rejecting the particular doctrines of the humoral pathology, the notions of degenerated bile, of acid or alkaline humours, adopts one more vague, though not more ſatisfactory, the notion of an exuberant morbific humour, from which nature very wisely and usefully endeavours to free the constitution by throwing it upon the head, the centre to which, in infancy, the nutritive forces are principally directed. This salutary operation of nature producing, nevertheless, those loathsome and untractable diseases, is similar, he tells us, to what is observed in some trees, which disencumber themselves of redundant gums and juices, elaborated by too vigorous a vegetation, through fissures in their bark and branches. And thus, he assures us, all the varieties of tinea, however pernicious may be their character, have also an object of real utility, the discharging through the skin, principles which were redundant in the system, and the presence of which was hurtful to the organic functions. Unfortunately, however, for this opinion, tinea does not appear to be the disease of over-feeding, or of too active an assimilation; it prevails chiefly amongst the half starved children of the poor; "it abounds in those quarters of Paris principally inhabited by the poor." The consequences of this view of the matter are the doctrine of metastasis, and the horrid practice of inoculating the disease, in the hope of relieving the constitution from other affections. The tinea muciflua was communicated by inoculation to a child of three years old, for the cure of what he calls chronic enteritis, hoping thus to remove the irritation from the abdominal viscera, and fix it on the scalp. Ten days after the inoculation, crusts appeared on the face and forehead, the enteritic symptoms disappeared, the diarrhœa became less and less violent, and the child gradually recovered. Again, he exclaims in another place, have we not seen the virus of tinea translated to the articulations, give rise to spina ventosa, and to scrofulous phthisis, or the irritation fall upon the mesenteric glands, and produce a mortal diarrhœa? We know not if M. Alibert has actually seen such things; but it is no difficult matter to conceive how, impressed with this doctrine, he might persuade himself of the reality of his observations, and find, in every disorder subsequent to the disappearance of a tinea, a proof of its translation. "Mais dans un ouvrage consacré à des vérités exactes, il faut mettre de coté le verbiage scolastique."—page 14. An excellent maxim, which we wish M. Alibert had kept more steadily in view.

As to the infectious nature of tinea, and its propagation from individual to individual, our author appears to be somewhat undecided. He believes that a certain predisposition at least is required. Examples he adduces, of the diseased sleeping and living constantly with the sound, without infecting the latter.

Experiments made in the way of inoculation seem to have failed oftener than they have succeeded. He himself has only once succeeded in the inoculation of the favosa; and another time he produced an eruption behind the ears of a scrophulous subject, by the application of the virus of the tinea muciflua. "And he has reason to believe," he adds, "that this practice may prove highly beneficial in lymphatic diseases. Yet, after all," he concludes doubtingly, "that the contagious nature of tinea is not rigorously demonstrated to the satisfaction of the exact and judicious observer." His embarrassment lies evidently between observations and a theory which do not agree. Had he fully spoken his mind, he would probably have alleged, that unless the morbific humour previously existed in the system, it could not be called forth by local inoculation or infection.

The ravages occasionally committed by inveterate cases of tinea, appear from the inspection of the subjects after death. The body of a male child, six years of age, was brought to the anatomical theatre of M. Beauchêne. The head was wholly covered with the tinea favosa, which was found to have penetrated far beyond the scalp. The occipital aponeurosis, the pericranium, the bones themselves were affected. The greater part of the parietal bones, and a portion of the frontal, were much thickened, and their external table destroyed, so that the cellular part of the bones was perfectly exposed.

The matter discharged by three species of tinea was subjected to chemical analysis by Vauquelin, and his pupil Cobal, who found that the matter of the favosa was more albuminous than gelatinous, that of the furfuracea more gelatinous than albuminous, and that of the granulata wholly gelatinous.

On the treatment of tinea, we are not furnished with any very satisfactory information. Every where we discover the author's dread of repulsions, and fatal translations; and yet the whole of his observations go to prove the inefficacy of the most active external applications which have been employed, and the extreme difficulty of affecting a cure by any means. For example, we are presented with the following results of extensive observation on the common and cruel practice of covering the head with a strong adhesive pitch plaster, and forcibly tearing it off along with the crusts and hair. A few children were thus cured, after a treatment of six months; a considerable number were not cured in a shorter time than twelve months; several were cured in the course of the second year; three years were necessary for obstinate cases, and somestimes a longer period: the cure was, after all, not always complete, relapses taking place; and some children, after being cured of the tinea, fell into other more serious diseases. The ointments composed from mercurial and other metallic oxydes were employed with no better success. Metallic solutions were not more efficacious. Poultices, and decoctions of cicuta, of tobacco, of dulcamara, and of other vegetable substances, were all subjected to experiment at the Hospital of St Louis, but without any evident advantage. Upon the whole, the sulphur ointment appears to have succeeded better than any other application. Cleanliness, simple ablution, the occasional employment of leeches, blisters, and purgatives, with a regimen directed to the general state of health, make up the practice recommended by M. Alibert, as the safest and most effectual in every species of tinea. In his concluding reflection we believe there is much truth.

" The different species of tinea, like other diseases of the skin, have their periods of developement, of increase, and decline. Practitioners wonder that they do not succeed; and it is not uncommon to see them administering, in the commencement of a disease of this kind, remedies, the application of which can only be effectual when the same affection has begun to decline."

## PLICA.

This disease, it is well known, is endemic in Poland, and in Lithuania, Hungary, and Transylvania. It occurs also in Switzerland, in Alsace, in the Brisgau, and Belgium. It is rarely met with in France, or the other countries of Europe. It is one, therefore, which our author has seldom seen. He has met, however, with three cases of it; two of these were Polish beggars, the other a woman at Paris. He has also examined heads of individuals who had died with the disease, which were sent him from Poland; and he has corresponded with M. de la Fontaine, to whom he acknowledges his obligations for much information on the history of plica. And indeed, to the account of this disease already published by M. De la Fontaine, in his Surgical and Medical Treatises on various subjects respecting Poland *, we do not find that M. Alibert has added any thing new: he has not only taken his general history from that writer, he has adopted also his opinions.

He begins, as usual, with the specific descriptions, and afterwards gives the general history of the disease.

The species described by him are three:

1st, *Plica caput Medusæ.* Plica, in which the hairs are interwoven and agglutinated into separate locks, of various length and thickness, more or less flexuous, resembling cords, and comparable to snakes. There are two varieties :

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* See a very full analysis of this work in Annals of Medicine for 1796.

A. Plica caput Medusæ *laciniata.*—The hair divided into locks, the tufts appearing as if lacerated.

B. Plica caput Medusæ *cirrhosa.*—The extremities of the locks convoluted and twisted like the cirrhi of certain plants.

The locks of the plica caput Medusæ are sometimes very rigid, sometimes they form serpentine flexions and undulations ; in some cases, they taper towards the extremities, in others, they terminate in enlargements and enormous masses ; some are cylindric, others flat ; their length various, sometimes prodigious, descending to the coccyx ; their number is also undetermined, they have amounted to sixty. Not unfrequently they fall off, and are, in succession, replaced by others. This species occurs in men more frequently than in women, and very rarely, though sometimes, it is met with in infants.

2d sp. *Plica Longicauda.*—The hair not agglutinated into numerous and distinct locks, but into a mass of enormous length, resembling a horse-tail. Four varieties are observed :

A. Plica longicauda *lateralis.*—Plica formed on one or on both temples.

B. P. longicauda *fusiformis.*—Cylindrical, and lessening like a spindle progressively in diameter.

C. P. longicauda *falciformis.*—The plica curved like a scythe.

D. P. longicauda *clavæformis.*—Enlarged at its extremities into a mass often enormous.

The plica longicauda acquires, in some cases, a prodigious size ; those affected with it have been seen dragging it along the ground, or condemned to inaction by its weight. In others, it is observed twisted round the shoulders and loins. There is a plica of this kind preserved in the museum of Natural History at Dresden, nine feet long.

3d sp. *Plica Cespitosa.*—The hair is agglutinated, and conglomerated into one shapeless mass, more or less voluminous. There are two varieties :

A. P. Cespitosa *calyptræformis.* The mass forming a sort of cap.

B. P. Cespitosa *globiformis.* This variety acquires often a very considerable size ; forming sometimes only one globe, sometimes several, giving the head a very monstrous appearance.

An attack of any of these species of plica is commonly preceded by unusual prostration of strength, numbness of the limbs, flying pains in the articulations of the feet and hands, in the shoulders, spine, back of the neck, and head. In the evening there is an accession of fever, which continues all night, terminating

nating in the morning by copious viscid fetid sweating, with remission of the other symptoms. To the arthritic pains are soon joined convulsive motions of the muscles, and startings of the tendons, headach, and vertigo. Soon after, the hairs begin to intermingle, and to agglutinate into separate inexplicable bundles, or into the forms of some one of the species described. The particular form appears to be modified a good deal by the previous fashion of the hair, so that ladies, we are told, who have been taken by surprise, with their heads full dressed, have, for years, retained the elegant arrangement of their hair. The disease also attacks the nails, especially of those that are bald; the nails become thick, rough, yellow, livid, black, and adunque. The external symptoms described, are produced by an abundant secretion of matter, discharged not only through the pores of the skin, but through the hairs themselves. This matter is ichorous and sanguinolent, of a peculiar disgusting smell, somewhat like rancid fat. The matter of plica is regarded by our author in the same light with that of tinea, as the production of a salutary crisis of nature to liberate the constitution from a noxious virus. When this matter is regularly deposited on the scalp and hair, all the functions of health are perfectly performed. But if it take another direction, the most dreadful consequences are observed. If it fall on the brain, it produces epilepsy, apoplexy, or mania. In the organs of respiration, it gives rise to asthma, hydrothorax, hæmoptisis, phthisis pulmonalis. If the virus attack the heart, it occasions palpitations; if the stomach and abdominal viscera, dysentery, diarrhœa, cholic, hypochondriasis, dyspepsia, and melancholy. In short, this virus, if we are to credit these tales, is capable of falling on every organ of the body, and of producing every disease with which we are acquainted. These observations, however, prove, to the perfect satisfaction of M. Alibert, *the extreme mobility of the trichomatic virus.* These views are quite familiar to the French physicians, who are constantly telling similar wonders de lait repandu, d'une gale, ou d'une dartre repercutée. To us, they have always appeared more than doubtful. The unhappy individuals who labour under this loathsome disease, are fully persuaded that it is conducive to their general health; they carry it for years together, till the plica falls spontaneously off, when it is frequently replaced by another; and they seldom apply for medical assistance. The plica Polonica is generally supposed to be of Tartar origin. It prevails chiefly amongst the poor, and appears to be propagated by contagion. The other causes assigned are less certain: The abuse of animal and salted food, of spirituous liquors, the influence of a moist atmosphere, want of due attention to cleanliness, and even the passions of the mind, are recorded as probable exciting causes of the disease.

The history of plica leads our author into some physiological considerations on the functions of the hair. They serve, he thinks, to conduct certain excrementitial humours out of the body. He remarks, that they have several points of resemblance with the skin; like the skin, they have a colourless epidermis, and the colouring matter which circulates within them, corresponds generally with the complexion of the skin.

The connection of the hair with the general economy is rendered evident by the changes which they sometimes undergo from disease. Madame P. in the course of a nervous fever, lost her fine fair hair, which was afterwards replaced by very black hair, Jerome B. was born with brown hair, which fell off during an illness, and was replaced by hair of a deep red. During the reign of terror, a young man, condemned to die, had his hair completely whitened in one night.

The inspection of dead bodies has not thrown much light on the nature of plica. Lafontaine observed that the bulbs of the hair were considerably enlarged, and, on pressure, discharged a yellowish fluid, perfectly similar to that which, during life, would have transpired through the hair. At the request of our author, Vauquelin examined chemically several specimens of human hair: It appears, from his analysis, published in the Annales de Chimie, that very black hair contains the following substances: an animal matter, which forms their greater part; a small quantity of white concrete oil; a fluid green oil, more abundant; iron, the particular mode of existence of which has not been determined; a small portion of oxide of manganese; phosphate of lime; a little carbonate of lime; much silica; and sulphur. It farther appears, that red hair differs from black, in containing a red instead of a green oil; and that white hair differs from both, in containing an oil almost colourless, and a portion of phosphate of magnesia not found in the others.

" The humour of plica was also subjected to chemic analysis, and was found to contain nearly the same principles," says our author, " with sound hair, but in less quantity. It contained less sulphur, less phophate of lime, scarcely any carbonate of lime, very litle iron, no sulphate of lime, no oil; and it dissolved very readily even in cold water, though the matter of common hair is soluble only at a very high temperature."

It does not appear to us, that from these comparative analyses, our author was entitled to draw the following broad and important conclusion, " that the matter of plica is the substance of hair deprived of the oil which abounds in their formation."

The plan of treatment laid down by Alibert is perfectly agreeable to the opinion entertained of the nature of the disease, and seems more directed to assist and keep up the supposed salutary crisis, than to remove the disease itself.

The internal treatment consists in the early exhibition of emetics in the first attack, and in the plentiful use of diaphoretic drinks prepared from bardanum, fumaria, sassafras and guaiac. The lycopodium has no specific power, over the disease; antimonials are more useful. If the fever run too high, it must be moderated by the usual means; if the patient on the contrary be low, his strength must be supported by tonics. To invite the crisis to the head, various external applications are employed. Sometimes emollient and relaxing fomentations answer well. In other cases, it is necessary to have recourse to stimulant applications, to blisters, sinapisms, and warm plasters, to call the trichomatic virus to the head. But if these fail, in directing the matter towards the scalp, inoculation is advised, on the authority of La Fontaine.

With regard to cutting the plica, practitioners are not agreed. La Fontaine assures us that it is dangerous to cut the plica, unless it be already partly detached, and have no communication with the integuments, but by means of new and sound hairs; and unless it have lost its fetid smell and unctuous appearance. This too is the opinion of Alibert. It is impossible for us, who have never seen the disease, to determine whether this opinion is founded in observation, or in prejudice. The fear of hæmorrhagy however is out of the question, for we have the authority of La Fontaine himself, in saying that is not true that the hairs bleed on being cut. And we cannot easily conceive, how the removal of the mass of plica should interrupt, in a dangerous degree, the exudation of the matter, when the bulbs and stumps of the hair remain, through which it may still be discharged. Be this as it may, Hirschel orders the head to be shaved, and even frequently washed with cold water; and this practice we know has been carried into execution with the happiect effect by M. Hænel, a surgeon of the Prussian artillery. The account of M. Hænel's success was communicated by Dr De Carro to the editors of the Bibliotheque Britannique.

" Some years ago, one third of the recruits of the regiments of artillery, brought from South Russia, were attacked with Plica Polonica. An order was received from Berlin, to send to that city all those that were infected, and to take care that the disease was not communicated to others. This order, it appears, was not agreeable to the commanders of companies, as it would have occasioned the loss of at least two hundred young soldiers. M. Hænel, surgeon-major of the artillery regiment, became mediator in the cause; he made the recruits be brought on the ramparts, and ordered that a general shaving should be made. In a little time, a pile of plica was accumulated ; these trophies were then cast into a ditch, and the heads of the men carefully washed with soap and water daily, for some weeks : By this simple method those dirty Polanders were speedily transfered into good soldiers, *without having in the least suffered by the loss of this precious ornament of their heads.*"

" This statement clearly points out," says Dr Thomas, from whose book we have borrowed the above translation, " the absurdity of the opinion entertained by the generality of the Polanders, and shews that the disease now in question may be cured with as much safety as tinea capitis."

## II.

### *An Essay on the Nature of Fever, being an attempt to ascertain the Principles of its Treatment.* By A. PHILIPS WILSON, M. D. F. R. S. Ed. Fellow of the Royal College of Physicians of Edinburgh, &c.

FEW subjects have more engaged the attention of the medical philosopher than fever. The variety of its symptoms, and the endless diversity of appearance which they assume, could not fail to rouse curiosity, and excite interest, in every mind in the least alive to the preservation of a fellow creature entrusted to his care. The earlier physicians detailed accurately its phenomena, but limited their attempts at explanation to a few aphorisms, relating to its treatment and event, of which patient observation and long experience had established the truth. Ingenious hypothesis, and fine spun theories on the causes and nature of fever, are the offspring of later times. Yet it may be fairly questioned, whether they have tended more to advance or retard our knowledge of this mysterious disease. They have amused and misled the minds of those who seldom think for themselves ; and they have often bewildered the judgment, and repressed the industry of original inquirers. Although we have bestowed some portion of approbation on these fleeting meteors of the day, as they passed in rapid succession before us, yet, as principles to guide him in the hour of difficulty and danger, at the bed-side of his patient, what practitioner has not found them deplorably defective, and turned with consolatory satisfaction to the pages of Monro or Fordyce, whose modesty and experience led them to disclaim all theory.

The failure of success, which has hitherto attended inquiries into the nature of fever, must no doubt be ascribed, in part, to the obscurity in which the subject itself is involved; but much also is owing to the pernicious disposition to too extensive generalization, and the rage for explaining different phenomena on a single and imperfectly established principle. Though fevers may agree in being diseases of the whole system, and, in their progress, affecting every function of the body, yet each particular species has its characteristic peculiarities, and however modified by circumstances, retains to the last its original type. Fevers, especially those denominated continued, occur almost equally with, or without any obvious cause; and dissection, our truest pathological guide, has not hitherto enabled us to trace their seat. Some of the laws of fever have been explored, and a few of its causes ascertained; but to demonstrate their mutual relation and dependence upon each other, and, consequently, to discover a certain and uniform treatment, is an enterprize of intellect which, in the present state of our physiological knowledge, we can scarcely expect to see accomplished.

The work at present before us, is another attempt to untie this gordian knot. It is divided into two chapters. The first contains what the author denominates " the opinions which have prevailed respecting the proximate cause of fever;" and the second comprehends observations on the proximate and remote causes, symptoms, and treatment of fever. They are prefaced by an introduction, and supported by an appendix nearly as extensive as the essay itself. We shall make a few observations on each in the order in which they occur.

The introduction commences with the following paragraph:

> " From the silence of physicians on the proximate cause of fever, since the appearance of Dr Cullen's *First Lines*, and Dr Brown's *Elementa Medicinæ*, they appear to have regarded its investigation as a hopeless labour; and it had, before this period, baffled the attempts of so many, that the following essay would require some apology, were it not that, in the advancing state of science, every new inquirer has better data than those who preceded him."

The perusal of this passage, we frankly confess, did not excite in us any sympathy for the author, in the Herculean task in which he had engaged, but, on the contrary, seemed to provoke all the acerbity of criticism. What! are there no names of celebrity in the period between Brown and Wilson? Must Rush, Darwin, Jackson, and Currie be consigned to oblivion?—" the very steps on which *he trode* to rise and reach his wish *." How indignant will many a Caledonian doctor be, to see his darling *inaugural primitiæ* thus rudely hurried off to the land of forgetfulness, or left to languish in obscurity on the shelves of their *alma mater?* The time has been, and we have seen it too, when a slender dissertation of this kind has been taken from its modest retreat, and, with a solicitude truly parental, been made to swell the size of an ample octavo. *Sed tempora mutantur, et nos mutamur in illis.* The intelligent reader will no doubt discover cogent and prudential reasons for much of this silence.

Our author observes, that the reader will see, in the first volume of his treatise on febrile diseases, published in 1799, " the imperfect outline of the present essay." We have perused both with considerable attention, and may perhaps hint at the probable cause of this difference.

In conformity to the sweeping assertion in the introduction, the first chapter comprehends the hypotheses of Boerhaave, Hoffmann, Cullen, and Brown only. The first of these, as well as its illustrious author, has long gone " to the vault of all the Capulets," and we can see no necessity, at this time of the day, to disturb their repose. The theory of Hoffmann has been so modified and improved by his more daring successor, that it has long formed a subordinate part of it, and they are now generally mentioned together.

Into the hypothesis of Dr Cullen the author enters more minutely, and, it must be admitted, does him every justice, in the length and number of quotations from his first Lines; but we have not met with a single forcible argument which Dr Rush had not previously employed when engaged in a similar attempt. But this is not the age of theory. Perhaps in no period in the history of medicine was there less faith in medical hypotheses than at present. Every tyro in the art is aware of this truth, and we cannot but smile at elaborate endeavours to overturn opinions which few admit, and still fewer believe. The durable fame of Cullen rests not on hypothesis, but on the profound sagacity which he displayed in discriminating diseases from each other, and the perspicuous and faithful histories which he has left of their origin and progress.

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* Dr Rush has written a work expressly on the proximate cause of fever, and he has been at great pains to overturn the opinions of Cullen. Darwin's theory of fever is perhaps one of the most beautiful of all his speculations, and is widely different from that of Brown, with which it has been improperly confounded. Dr Jackson, in his work on the Yellow Fever, and in a more recent one, has prosecuted the same subject with great ingenuity. Currie has done more. He has detected the fallacy of others, shewn wherein it consists, reconciled their opposite views, and, by a number of unquestionable facts and ingenious reasoning, he has demonstrated the influence of temperature in fever, and laid down precise and simple rules for the administration of a powerful and efficient remedy.

Objections to a diffuse discussion on the merits of the Brunonian system may be urged, perhaps, with still more propriety. Every argument that enthusiastic admiration or malignant ingenuity could suggest, have long since been exhausted in attacking or defending the doctrine of Brown. While some have silently apostatized from the tenets of their leader, others have made an open renunciation of their faith; and even our students begin to evince a disinclination to employ his ill-understood nomenclature. But since it became a necessary part of Dr Wilson's plan, in framing a theory of fever, to aid in the demolition of this formidable original, he would, in our opinion, have derived more energetic support from a contrast of the Elementa Medicinæ with the Observations on Purgative Medicines by Dr Hamilton of Edinburgh. The facts detailed in that valuable work rest on unquestionable authenticity, and they are in direct opposition to the principles of Brown. To contend in general argument with a staunch Brunonian, is to take the bull by the horns. The versatility, and all explanatory agency of accumulated and exhausted excitability, never fail to oppose a specious resistance to every attack; and, therefore, like many others, Dr Wilson has left this controversy where he found it.

The second chapter commences with observations on "the proximate cause of fever." In an advertisement to the work, the author is at great pains to inform us, that he employs the term "proximate cause" in the same sense in which almost all the systematic writers have done. He objects to the three-fold division of the functions into the vital, natural, and animal, and thinks that the classes vital and animal are sufficiently comprehensive and accurate. By means of the vital functions, life is preserved, by the animal functions we are connected with the external world. We have no objection to any division which can simplify our ideas of abstract subjects, but prolixity is preferable to obscurity. Our author has not clearly defined the boundaries of these two classes of functions; and although anxious to consider them independent of each other, their close alliance obtrudes itself upon him every sentence. If we understand him right, he means to assert, that every function performed without consciousness is a vital one, and that the operations of mind constitute the animal functions. We can discover here a close approximation to the animal and organic life of Bichât, without his perspicuous discrimination, or even the mention of his name. But we shall let our author speak for himself.

" The vital and natural functions then, are similar in their nature; have for their object the preservation of life; are performed independently of the will or consciousness of the animal, and immediately depend on organs which possess an excitability which continues unimpaired through life."

" The animal functions are not concerned in the preservation of life. They have, for their object, to connect the animal with the external world; are subjected, all to the consciousness, many to the will of the animal; immediately depend on organs of which the other functions are independent, and possess an excitability subject to a constant alternation of exhaustion and renewal." Pp. 91 and 92.

" It is evident, therefore, that when the vital organs are debilitated, the animal organs necessarily partake of the debility. It is equally evident why the converse of this is not true, *the nervous system may be debilitated without affecting the powers of circulation.* Thus, when any cause impedes the action of the heart, the brain immediately partakes of the disorder; but even in apoplexy, the pulse is generally strong and good, and only becomes slower and more languid in proportion as *the respiration, which is performed by muscles that depend for their vigour on the influence of the brain, becomes so.*"

" Thus it is that in *diseases properly termed nervous, the pulse is generally good, however great the languor and depression of strength may be;* nay, I have even found, from experiments made for the purpose of ascertaining this point, that the total destruction of the nervous system produces no immediate effects on the action of the heart, nor in any other way affects its motion than necessarily happens in consequence of the interruption of respiration." Pp. 93-4.

The two latter paragraphs shew what liberties the author has taken with his own definitions, and demonstrate the impossibility of appreciating the different degrees of sensorial energy that produce the phenomena of mind, and give vigour to the corporeal functions. Over many of the functions which may be denominated vital, we have no controul: such as digestion and the various secretions. But over the circulation, a function the most purely vital, some individuals have acquired and retained a perfect command. Yet, though not subservient to the will, the connection between the mind and the functions of the body is so intimate, and the operation of cause and effect so nearly synchronous on some occasions, that we are almost led to suspect even a reciprocity of action. Has not the motion of the heart been suspended, and death instantly produced, by hearing the account of an unexpected event? Does not the recital of a noble action or generous sentiment make the tear to start from the eye, even before it be well finished? Grief constipates the bowels, and fear augments the secretion of urine. On all these occasions the pulse is affected. It is a wise provision of nature, that the preservation of life is not left to the caprices of the individual, and it is consolatory to know, that our powers of perception may be suspended for a time, without the susceptibility of resuscitation being destroyed. But while consciousness exists, whether in health or in disease, we may be assured there subsists an uninterrupted reciprocity of action between the animal and vital functions. Organic life, independent of mind, if it exist at all, must be sought for in the vegetable world.

It is a mistake to believe that apoplexy furnishes an illustration of this independence of function. The heart is in this case suddenly roused to increased action, and the blood is consequently sent in greater quantity, and with greater velocity, nót only to the brain, but to every part of the body. The pulse is then full and strong; no cause impedes the motion of the heart, nor does it become weak until sensation is impaired. But suppose that the patient should recover from such an attack, and come off with a hemiplegia, is the pulse, in that case, equally vigorous in both arms? Certainly not, and that of the affected side recovers strength with the reviving energy of the brain. In general, however, it rarely recovers its wonted power, and a marked difference continues during the remainder of life. Irregularity and weakness of pulse have been so long ascertained to accompany nervous diseases, that we deem it altogether unnecessary to stop to refute a contrary opinion. Experiments on tortured and dying animals, can never furnish data upon which we can found the treatment of disease, and for this plain reason, that, as there exists no similarity of condition, there can, consequently, be no analogy.

From these, and similar arguments, Dr Wilson deduces the following proposition, which he considers a legitimate result:

> " It appears, then, that when a debilitating cause is applied to the vital system, the extreme parts of this system lose their tone; that in consequence of this, secretion being impeded, a preternatural stimulus is applied to the heart and larger vessels, which, by exciting them, tends to restore tone to the capillaries, in *the same way* that an increased action of the larger vessels of *an inflamed* part tends to restore tone to the capillaries of that part. On this principle, I believe, the whole phenomena of fever may be explained: to establish this position, it will be necessary to review these phenomena, which I shall do under the three heads of the Symptoms, Causes, and Cure of fever." Pp. 100-101.

Before, however, following our author through his illustrations, we cannot resist the inclination to compare his theory with " a partial view of fever, as in the First Lines."

> " Upon the whole, our doctrine of fever is explicitly this: *The remote causes are certain sedative powers*, applied to the nervous system, *which*, diminishing the energy of the brain, thereby *produce a debility in*

*in the whole of the functions, and particularly in the action of the extreme vessels.* Such, however, is, at the same time, the nature of the animal economy, that *this debility proves an indirect stimulus to the sanguiferous system, whence,* by the intervention of the cold stage and spasm connected with it, *the action of the heart and larger arteries is increased, and continues so till it has had the effect* of restoring the energy of the brain, *of extending* this *energy to the extreme vessels, of restoring, therefore, their action,* and thereby especially overcoming the spasm affecting them ; upon the removing of which, the excretion of sweat, and other marks of the relaxation of excretions take place." First Lines.

The reader will observe, that to render the similarity between these views of fever more striking, we have put in italics those portions of the passage which contain Dr Cullen's *doctrine of fever,* and the sense will remain unaltered if he read those portions only. The other parts of the paragraph throw a slight degree of obscurity on the whole of it. But the two hypothesis appear to differ merely in this : Dr Cullen wished to embody and to give a name to the supposed minute motions going on, which he thought would more forcibly connect, in the mind of the reader, his explanation of the leading and more obvious phenomena. Hence the objectionable, but ill understood terms, spasm and energy of the brain. Dr Wilson prudently keeps his speculations on this subject to himself, although some similar train of ideas must have passed in his mind. Caveant medici, caveant imprimis in medicinæ studium incumbentes, ne hoc modo sibimet dent verba, umbramque pro substantia captent.

The symptoms of fever are enumerated with accuracy, but without sufficient attention to time, and their successive progression. They are divided into those of excitement and those of debility.

"The symptoms of excitement in continued fevers differ only in degree from those of a simple paroxysm. The symptoms of debility differ in kind as well as in degree." P. 109.

This curious assertion, which one would scarcely expect to have met with in the mouth of a practical physician, if it mean any thing, implies that the symptoms of the first and second stages of fever are essentially and uniformly different. By the word excitement in disease, we have always understood the presence of some sensible morbid action, and we cannot help thinking that such action denotes some change, and has its cause, whatever that may be. The excitement, therefore, or what is the same thing, the symptoms, must perpetually vary both in kind in degree. We know, that, in several instances, the symptoms of fever follow a certain march with considerable regularity : but, is not the order liable to constant interruption, and is it not often

completely

completely reversed? Thus, from apparently the same general cause, two individuals shall be differently affected. In one, the milder symptoms run their course before the appearance of the more violent. In the other, convulsions and delirium usher in the first paroxysm. Nor will much practical good, in the treatment, result from the opinion, that, in the latter case, there has been a more rapid exhaustion of excitability.

The remote causes of fever are stated at length, and with accuracy, but we think there is an ill-defined latitude given to the word debility, to the production of which they are all supposed, indiscriminately, to contribute.

"Respecting the causes of fever, it will only be necessary to show, that they are all such as occasion debility of the vital organs, and that all causes which debilitate these organs, produce fever." Pp. 123-4.

Debility takes place, to a great extent, in paralysis and in dropsy; and it is at its highest pitch when a patient begins to convalesce from a smart attack of fever itself. These facts are not easily reconciled with the views of our author.

In the treatment of fever, we are gratified to see Dr Wilson laying aside, in a great measure, his hypothesis, and adopting that system which every rational practitioner follows; succunendumque semper pacti maximi laboranti est. Fond, however, of generalizing, there occur a few exceptions to this cautious mode of proceeding, and we shall state one.

"Universal experience," says our author, "has ascertained that the more powerful means of exciting the capillaries, *if we except the application of cold to the surface*, should form no part of the treatment of the second stage of fever, *the cause of which is sufficiently evident*. With this exception, they *all necessarily occasion more or less evacuation*, which ought now, as much as possible, to be avoided." P. 158.

Now, in the second stage of fever, when the system has been reduced by its continuance, and when real debility prevails, it is then, and then only, that a nice administration of general and generous stimuli become necessary, and which, while they rouse and invigorate the functions, excite, and effectually restore tone to the capillaries. With this view, we cannot see what dangerous evacuations are to be apprehended from a judicious use of opium and wine. The application of cold to the surface, under any form, when the body is in such a state, to say no more, is a very doubtful remedy. If the reduction of temperature which it effects be not succeeded by a vigorous action of the heart and larger arteries, and a relaxation of the surface, very serious consequences ensue, as we have had frequent opportunities of witnessing.

It is full time, however, to conclude a review which has already exceeded the usual limits; but the importance of the subject appeared to claim a more than ordinary share of our attention. We regret that we have had such frequent occasion for animadversion, but Dr Wilson must console himself with the great lexicographer, in the reflection, that he has "only failed in an attempt which no human powers have hitherto completed." He possesses both industry and ingenuity; and when he shall next exercise these on a subject more within his reach, and on which fewer celebrated names have preceded him, it may then become our duty to bestow approbation on his labours, and we shall perform it with satisfaction.

## III.

Gerardi Sandifort, *Med. Doct. Anatomes in Academia Batava quæ Leidæ est, Prof. Extr.* Tabulæ Anatomicæ *situm Viscerum Thoracicorum et Abdominalium ab utroque latere, ut et à posteriore parte depingentes. Præcedit Observatio de Aneurysmate Arteriæ Iliacæ Internæ, rariore Ischiadis Nervosæ Causa. Folio. Lugduni Bat.* 1804.

THE name of the celebrated professor who was father of this author, is a sufficient recommendation to any work which professes to increase our knowledge of the anatomical structure of the human body. Professor Sandifort has here presented us with some useful views of the contents of the thorax and abdomen, in their relative situation, and he speaks of this fasiculus with becoming modesty. He has been long accustomed to make dissections for his father's lectures, and to prepare those parts not usually noticed in anatomical plates; hence he has been induced to publish those views of the different organs in situ, taken from the posterior part of the body, and from the right and left side, and he mentions the plan he followed in making such sections. There are nine plates, accompanied by suitable descriptions; two of them relate to the case of aneurism, and the rest to the general anatomy of the thorax and abdomen. In some plates three smaller figures are engraved in a bold and distinct style, and the whole are executed in a simple and plain manner, so as to constitute the utility without adding to the expence of the work. Besides the descriptions and references, which appear to be sufficiently ample and accurate, some remarks are occasionally introduced, relating to different points in pathological inquiries. We have picked out the following, in going through an examination of the work. In describing the fifth and sixth plates, Professor Sandifort observes, that the situation of the *intestinum cæcum* frequently varies : sometimes he has seen it in what is strictly called the umbilical region, sometimes on the right side, sometimes lodged within the pelvis, by which the course of the colon has been altered. Hence he says, it is not so very extraordinary, though it seldom happens, to find the cæcum in an hernial sac on the right side. A case of this kind, which had all the marks of a strangulated hernia, in an infant only a few months old, came under the observation of his father, and is described by him, and a drawing given in his treatise "De Herniâ Congenitâ." To meet with the cæcum constituting a hernia on the left side is exceedingly rare. Professor Sandifort mentions having seen a case of this nature. A male child, six months old, died lately in the hospital at Leyden, of a strangulated hernia on the left side : on opening the body before several professors and surgeons, a large hernial sac was discovered, which contained the whole of the cæcum, with the appendix vermiformis, and a portion of the ileum. The whole of the strangulated intestine was highly inflamed, and the ileum of a livid colour, the cæcum was also very much distended with air and with feculent matter, and the ring of the external oblique muscle so contracted as entirely to prevent the reduction of the gut. A curious instance of imperforated anus in a male child, accompanied by a contraction of the pylorus, is related. The intestine terminated about half an inch distant from the anus; it was easily opened by a trocar, and a bougie introduced to prevent the parts uniting again ; a considerable quantity of meconium was discharged, and every thing going on well, therefore the child's death could not be attributed to the operation. The stomach was found to be unusually distended for so young a subject, and the pylorus contracted, and as hard as cartilage, with an opening so small as scarcely to allow any aliment to pass ; the other intestines were in a sound state.

The following is an abstract of the case of aneurism, which occupies seven pages of the present work, together with the tables of reference to the two plates which are given to illustrate the description.

"History.—A woman aged 32, who said she had never been pregnant, although much addicted to sensual gratifications, was seized, without any apparent cause, with violent pain in the lower part of the tuberosity of the right ischium, in the hip and upper part of the thigh, which soon increased so as almost to be intolerable: About the same time, a moderate-sized swelling appeared in the lower part of the ischium, which appeared to be seated in the cellular substance. Emollient cataplasms applied to this painful tumour, repeated bleedings, and other external applications, produced a temporary alleviation of the pain, but no permanent relief. In a short time the pain increased with great violence, extending along the course of the ischiatic nerve, and attacked the posterior part of the thigh and the whole leg, and gave rise to a train of other symptoms. In the month of March 1800 she was brought to the hospital: various remedies were immediately directed to the ischiatic nerve, but without effect; the sense of feeling in the affected part, and the power of motion, became gradually diminished, till at last they were destroyed, and complete paralysis of the leg came on. The whole limb became œdematous, and the swelling extended to the genital organs, so that the right labium pudendi projected beyond the left, and formed a large tumour. The pulse, in the mean time, was weak, regular, and not feverish, and it remained so throughout the whole course of the disease. When the pain had increased by degrees to the highest pitch, a swelling was observed behind the great trochanter, extending along the ischiatic nerve, and another tumour under Poupart's ligament, or rather the margin of the abdominal muscles, near the termination of the internal iliac muscle and the psoas magnus; but this was much smaller than that occupying the posterior part. The right side of the abdomen swelled, and a hardness was felt along the belly between the superior part of the edge of the os innominatum and the os pubis. The bowels were always costive, and stools could only be procured by stimulating purgatives or glysters. The bladder could not retain the urine, it came away by drops continually; the menses were suppressed as long as she laboured under this complaint; mortification came upon one of the toes of the right foot, but this did not spread any farther, till the last stage of the disease, when gangrenous spots appeared on the leg. Overcome by these distressing symptoms, and reduced to a skeleton, this poor woman was attacked by hectic fever, and died on the 3d of July.

" Dissection.—The examination was begun at the hip and thigh of the right side, where she had first complained of pain, by removing the skin from those parts. The middle of the gluteus magnus was raised up by a tumour, which became more distinctly seen by separating this muscle in order to get at the ischiatic nerve. Nothing unnatural was observed in the nerve, or in the surrounding parts, except this tumour, which was covered with condensed cellular membrane, and the edge of the sacro-ischiatic foramen was found to be rough and uneven to the touch.—On opening the abdomen, the liver, stomach, and spleen presented no unusual appearance; the small intestines, however, were pushed upwards, and the great ones very much contracted, and all of them on the right side tinged with a dark green colour, the same as the tumour, which was of an enormous size, filling the lower part of the abdomen and the whole of the pelvis so completely, that the finger could not be introduced between it and the bones of the pelvis. The course of the colon, where it terminates in the rectum, was examined, and found to be turned towards the left side, along the middle portion of the os illum, and passing along the ischium. The bladder and uterus could not be seen, on account of the size of the tumour. All the vessels, both arteries and veins, were removed, and at the division of the iliac artery into external and internal, it appeared that the latter was distended into this aneurismal sac not far from the origin of the external iliac. The external iliac vein was almost obliterated where it passed over the tumour, and scarcely admitted a probe, cautiously passed through it: the ureter on the affected side was very much enlarged, and passed by the side of the tumour with the spermatic vessels into the pelvis.

" The aneurism had gradually made its way between the peritonæum and the muscles, and the peritonæum adhered to the coats of the dilated artery; but these adhesions could be separated, because they were slight in some places, though nearer the trunk of the artery they had acquired a cartilaginous hardness. The whole tumour was filled with grumous blood, in a fluid and coagulated state; and when it was emptied entirely, there seemed to be no sac at the bottom part, in consequence of its having been extended gradually, so much as almost to disappear entirely. The internal iliac muscle was in a great measure destroyed, and all the bones surrounding the tumour were eroded, and become carious. Those portions of the ischiatic nerve which run within side the pelvis, were wholly destroyed, so that scarcely any vestige remained."

It is unnecessary to translate all that the learned professor has said to account for the different symptoms, because the aneurism was obviously the cause of the patient's sufferings, and ultimately of her death. There is a similar case recorded in the third volume of the Transactions of the Medical Society of London; and others of the same kind are to be found in the works of Morgagni, Lieutaud, and other writers on morbid anatomy.

## IV.

*A View of the Nervous Temperament, being a Practical Inquiry into the Increasing Prevalence, Prevention, and Treatment of those Diseases commonly called Nervous, Bilious, Stomach, and Liver Complaints; Indigestion, Low Spirits, Gout, &c.* By THOMAS TROTTER, M. D. late Physician to his Majesty's Fleet, &c. &c. 8vo. Pages, 328. Newcastle, 1807.

THAT Dr Trotter, when young in his profession, was every day committing blunders, we learn, without much surprise; that he was frequently mortified with seeing his patients get worse under his treatment, though deplorable, is not perhaps more marvellous. We believe, indeed, that it is but too common a thing for young physicians to make blunders; and, if they possess any sensibility or goodness of heart, to suffer very many mortifying disappointments. But we attribute this rather to their want of clinical experience than to the errors of their predecessors, the ignorance of teachers, or the deficiency of books. Not so Dr Trotter. In vain he had recourse to books, "*for books could not supply the deficiency.*" Now this does both surprise and afflict us. It surprises us, because we believe there are books well calculated to supply the deficiency complained of; it afflicts us, because, after a careful perusal of Dr Trotter's volume, we are satisfied that those who have had recourse to the works of Cullen and of Whytt in vain, will continue to blunder on, even with the view of the Nervous Temperament before them. For the truth is, there is very little either of observation or of doctrine in the work now before us, that is not as distinctly, and sometimes more explicitly and fully, illustrated in the writings of these great masters. These observations and doctrines are, to be sure, new fashioned a little, and modernised in the View of the Nervous Temperament; still, however, it is but an old song to a new tune. We cannot be deceived by the author's pretensions to novelty, while it is in our power to confront him with Dr Whytt.

The terms flatulent, spasmodic, nervous, hypochondriac, hysteric, bilious, dyspeptic, vapours, and some others, have each, in their turn, according to the fashionable theory of the day, been assumed as generic of the whole, and of many other disorders. The predisposition to this order of diseases is, according to Dr Whytt, an uncommon delicacy, or unnatural sensibility of the nervous system; a predisposition which, he says, is divisible into the natural or acquired. According to Dr Trotter, the nervous predisposition or temperament consists in a sensible, irritable, and mobile condition of the nerves, and may be divided into hereditary and acquired. Dr Whytt, "Those morbid symptoms which have been commonly called nervous, are so many, so various, and so irregular, that it would be extremely hard either rightly to describe, or fully to enumerate them. They imitate the symptoms of almost all other diseases." Dr Trotter, "A methodical history of these diseases, at least a narrative of the symptoms as they appear in succession, is almost impossible. They assume such variety in form and manner in different persons, that we look in vain for regular order."

Dr Whytt, however, does begin a description, by enumerating the symptoms of a disordered state of the stomach and digestive organs; so does Dr Trotter. Then we have, from both, pains and cramps about the stomach and bowels, flow of pale urine or strangury, oppression, and low spirits, and the various hallucinations of a diseased imagination, palpitation, asthma, hysteria, epilepsy, and so on. In short, no two descriptions of the best known and best marked diseases can be more alike. Two descriptions of pneumonia, from any two Edinburgh theses published within the last half century, have not more points of resemblance. Angina pectoris and tic douloreux, unknown by these names in the times of Dr Whytt, are, for the first time indeed, regularly marshalled as diseases of the nervous temperament by Dr Trotter.

The pathology, or general doctrine of nervous diseases delivered by Dr Trotter, is founded chiefly on the disordered state of the digestive organs, and the general sympathy which exists between these organs and all our mental and corporeal parts, through the medium of the great intercostal or sympathetic nerve. "On the whole, then, it is fair to conclude, that the pathology of these diseases is to be sought in the deranged sensations and inverted sympathies of the great sympathetic nerve, and in the irregular action of all those organs to which it is distributed."

Even here our author has been anticipated by Dr Whytt, who has very fully appreciated the influence of the stomach and its nerves on nervous diseases, and gives the same general theory, founded on the sympathies of the intercostal nerve. "There is no organ of the body," says Dr Whytt, "the unnatural state of whose nerves is so frequently the cause of nervous, hypochondriac, and hysteric disorders, as the alimentary canal, especially the stomach." After many other important observations and illustrations of the subject, he concludes in the following words.

" From what has been said, we may see that faintings, tremors, palpitations of the heart, convulſive motions, and great fearfulness, may be often owing more *to the infirm state of the first passages*, than to any fault either in the brain or heart. But it would be unnecessary to insist farther on this head, as the powers which the alimentary canal, when its nerves are disagreeably affected, must have in producing disorders in the most distant parts of the body, cannot be doubted of by those who attend to that wonderful and widely extended sympathy which obtains between it and almost the whole system. What has been said, may be sufficient to show how much a delicate and unnatural state of the nerves of the alimentary canal must dispose persons to nervous, hypochondriac, and hysteric complaints."

Nor was this an useless or unprofitable hypothesis with Dr Whytt. On this view of the nervous predisposition or temperament, he has distinctly founded the general method of treating those disorders. The great predisposing cause of nervous disorders is, says Dr Whytt, " a too great delicacy, or uncommon sensibility of the nerves in general, or of those of the stomach and intestines, or other organs in particular." The remedies best adapted to obviate this predisposition are, he continues, " either such as not only *strengthen the stomach and bowels, but the whole body*, or those which, by their peculiar action on the extremities of those nerves to which they are applied, lessen, for a time, the too great sensibility of the whole system." The first class of remedies are bitters, the bark, steel, the cold bath, air, aliment, exercise, and amusement. The second class comprehends the antispasmodic and anodyne. On each of these Dr Whytt speaks at considerable length. His next indication is to remove or correct the occasional causes; and, under this head, he recommends the frequent employment of stomachic purges.

Dr Trotter has followed precisely the same plan, and added little or nothing to the details.

His indications of treatment are to strengthen the constitution, and to palliate particular symptoms. The strengthening medicines are iron, Peruvian bark, and bitters; the palliating remedies opium, æther, camphor, asafætida, and the warm gums. But it is not by medicine alone that the nervous temperament can be corrected or removed. It is necessary to attend to all those circumstances in the manner of living of our patients, which have induced, and while they operated, must continue the predisposition. Patients labouring under nervous diseases must submit to a complete change in their mode of life, and revert to a simple regimen of food, air, exercise, &c. Under this head, we cheerfully acknowledge, that Dr Trotter has given many excellent observations, and judicious precepts. These "turn upon a *reversed mode of living*, or changes opposed to former habits."

It is true, that Dr Whytt has also inculcated the same doctrine, and given similar rules under the heads of aliment, air, and exercise, and in the course of his observations on the occasional causes of nervous diseases; but he has not brought forward the subject in so luminous a point of view, nor insisted so fully on this great rule, and the precepts deducible from it. But these, we believe, are very generally understood, even by young physicians. The following is given by Dr Trotter, as a striking instance of the beneficial effects of reversed modes of living.

"A few years ago, when it was my good fortune to be honoured with unbounded confidence by the naval service, I was consulted by some particular friends of great affluence on the bad health of their wives, who, to the regret of all concerned, had never been in that happy way, "which ladies wish to be, who love their lords." These ladies, after being married for several years, without having children, devotees of fashionable life, and a prey to painful nervous disorders, are now the mothers of healthy boys and girls, and enjoy the best health imaginable. All these happy changes were effected by little assistance from medical prescription; they were brought about by *reversed modes of living.*"

On the whole, as the nervous predisposition or temperament is the offspring of luxurious and indolent habits of life, the disorders thus induced are not to be got the better of, without a systematic change of habits, and a rigid adherence to the plain dictates of nature and of common sense. The golden rule is, to lead a sober, virtuous, and active, life. It is in exposing the folly and danger of fashionable modes of life, and contrasting them with the advantages of regular, sober, and active, habits, that Dr Trotter's merit chiefly consists. And in this view, we have no hesitation in agreeing with him, that his inquiry may be useful to *general* readers. But we cannot allow, that it has added much to our stock of *medical* knowledge, or that Dr Trotter has greatly improved on the doctrines and practice published by Dr Whytt nearly half a century ago. We must repeat it, those who have had recourse to the works of Whytt and of Cullen in vain, must still blunder on; the view of the nervous temperament cannot help them. It cannot contribute more "to familiarize the junior members of the profession with the genius of nervous disorders, and to guard them against mistakes in the treatment," than the books they have already in their hands. Considering this, however, as a work of the popular kind, and fitted to the instruction of general readers, we must applaud both the design and execution. It is calculated to do much good by disseminating those truths with regard to the origin and prevention of nervous disorders, which physicians too often prescribe to their patients in vain.

Thus the view is opened, by exhibiting a picture of the savage state compared with modern times, to shew, that man living in all the simplicity of nature, is exempt from those bodily ailments and mental disquietudes, which are produced by the excesses and dissipations of civilized life. Having shewn, that health and vigour of body, with insensibility and passive content of mind, are the inheritance of the untutored savage, and that his pains and diseases are few, Dr Trotter goes on to describe the inhabitants of a town or city, and thus to shew, how business, customs, and manners, influence health. The inhabitants of a large town, he divides into the following classes: literary men; the idle and dissipated; the artificer and manufacturer; those employed in drudgery; persons returned from the colonies; the female sex, consisting of the higher, the middling, and lower, orders of women. From a survey of the employments and modes of life of each of these classes, and of the vices and preposterous customs of society, the various sources of physical degradation and of disease are made apparent; and from these the remote causes of nervous disorders are deduced.

The best and most instructive chapter of Dr Trotter's book is, that on the remote causes of nervous diseases. These causes are respectively considered, and their operation in the production of disease, very fully and very ably examined under the following heads: air; exercise; food; cloathing; passions of the mind; intense study; lactation; miscarriages and premature labours; climate; medicine. Our author's assertions, that, to correct the mistakes of his earlier practice, he had recourse to books in vain, and that books could not supply the deficiency, led us to institute a comparative inquiry not very favourable to his pretensions to originality in the history, doctrine, and treatment, of the nervous predisposition and diseases. His account, however, of the remote causes, as found among refined modes of life and luxurious habits, is certainly more complete, judicious, and satisfactory, than any thing that has been said on this head by preceding writers on nervous diseases. The whole is well deserving the attention of every class of readers.

As a specimen of Dr Trotter's manner, we give the following quotation from his observations on the passions of the mind.

"The intercourſe and communication between our material and immaterial parts, is a difficult and intricate subject to enter upon. All philosophers who have ventured to go beyond the threshold of inquiry in this department, have been bewildered, or returned no wiser than when they began. Nature seems to have endued particular portions of our frame with a more exquisite connection with our mental part; and subject to a closer sympathy with our passions. Many external signs correspond with our internal emotions. It is a difficult task, if at all possible, to wear the smile of gladness when the heart is sad. A nervous constitution is ill qualified to disguise its feelings. Persons accustomed to study the variations of feature in the human countenance, such as physicians, sometimes acquire a wonderful expertness in developing the passions. This physiognomonic experience is of great utility to the practice of medicine: it is the gift of genius; and in this respect, the physician, like the poet, may be said to be, "*nascitur non fit.*" The want of this imminent quality of intellect, makes the laborious plodder a dangerous visitor at the sick-bed, particularly to the nervous patient: nature refuses to draw her veil aside to a clumsy observer; who, being denied access to her mysteries, is very apt to pervert the purpose of what she discovers.

"But there is a species of sympathy among certain organs of our body, that points out a more intimate connection with the mind than what is possessed by others. The lungs and heart, in the thorax: the stomach, intestines, liver, and all the viscera subservient to digestion, have an innate sympathy with our emotions. During strong impressions on the mind, the heart beats quick and tremulous, and is said to palpitate; the motion of the ribs and diaphragm grows irregular and involuntary; and the action of the lungs so unequal as to make respiration hurried and convulsed; hence sobbing, sighing, and panting take place. The effect of violent passions on the chylopoetic viscera, is to destroy appetite, disturb digestion, invert the peristaltic motion of the stomach and bowels, and render the alvine discharge variable and irregular. The biliary secretion is also inconstant, and perhaps altered in quality: the hepatic, cystic, and common ducts, may be affected with spasms, inverted and obstructed; thus jaundice, and vomiting of bile are no unfrequent attendants of violent emotions. The ancients held the liver to be the seat of choler and jealousy, hence the poet says,

Cum tu Lydia, Telephi
  Cervicem roseam, et cerea Telephi
Laudas brachia, væ, meum
  Fervens difficili bili tumet jecur. HORACE.

The kidneys, ureters, and bladder, are all subject to this sympathy, from similar causes; as appears by violent pains, strangury, and total suppression of urine: the colour of the urine is variable; and the quantity is sometimes profuse, at other times deficient. These affections of the urinary organs are among the surest diagnostics of nervous diseases. On the whole, all the more violent emotions strongly affect all these organs, which form a chain of feeling with one another, of a more exquisite kind than is to be found in any other part of the system, or from any other disease. The degree of the effect on these parts will be in proportion to the sensibility of the temperament; and in many subjects we find hysteric fits, epilepsy, and other convulsions, tetanus, menorrhagia, amenorrhæa, take place in an instant, from mental sympathy." P. 81-84.

We know not if every class of Dr Trotter's readers will pardon his attack on novels and the drama.

"The passion of *novel reading* is entitled to a place here. In the present age it is one of the great causes of nervous disorders. The mind that can amuse itself with the love-sick trash of most modern compositions of this kind, seeks enjoyment beneath the level of a rational being. It creates for itself an ideal world, on the loose descriptions of romantic love, that leave passion without any moral guide in the real occurrences of life. To the female mind in particular, as being endued with finer feeling, this species of literary poison has been often fatal; and some of the most unfortunate of the sex have imputed their ruin chiefly to reading of novels. How cautious, then, ought parents to be in guarding against the introduction of these romances among their children; so calculated to induce that morbid sensibility which is to be the bane of future happiness; which to prevent is the task of a correct education; which first engenders ardent passions, and then leaves the mind without power to resist or subdue them. It is lamentable, that three fourths of these productions come from the pens of women; some of whom are known to have drank deep of the fountains of pleasure and adversity.

"The *drama* is another hot-bed of this diseased sensibility. It has been long ago remarked, that few English comedies were sufficiently pure for the ear and eye of a chaste and virtuous woman. But if such scenes are to be found among them, the sentiments they express cannot be much improved from the mouths of some first-rate actresses, who live openly as kept-mistresses. We are very little obliged by the late importation of a few loose German plays on the English stage. They are the offspring of a *new school*, and communicate poison in a new way; such poison as has no antidote on the shelves of the apothecary." Pp. 89, 90.

Under the head of *medicine*, considered as a remote cause of nervous diseases, we are presented with some important observations on the abuse of mercurials, and especially of calomel, so often empirically prescribed in what are called stomach and bilious complaints. The success of this remedy in the hepatitis of the East Indies, and some other chronic affections of the liver, has led, by analogy, to its employment in other cases. It is certainly, however, a remedy ill adapted to the sensible and irritable frame of such as labour under diseases of the nervous temperament, which it is much more calculated to increase than relieve. We concede generally to Dr Trotter, what he has said against the abuse of calomel in stomach complaints, and warmly recommend these observations to the serious consideration of physicians. But we, nevertheless, think, that in some cases of dyspepsia, attended with what are called bilious symptoms, that we have seen very great advantage from small alterative doses of calomel. And we confess ourselves of those who believe that this medicine has a very marked effect on bilious affections, independent of evacuation, although this opinion has been pronounced fanciful by Dr Trotter. We ground this opinion, not on its peculiar effect as a cholagogue, but on its effect when administered in alterative doses, of restraining and changing the secretion of the bile. The dysentery of the East Indies is, in truth, a hepatic flux, and something like this we occasionally see at home in children; in both cases calomel acts the part of a restringent, by changing the action of the secreting organ. And in the green diarrhæa of infants, we have daily occasion to observe the great power of very small doses of calomel in changing this vitiated bilious secretion. "I find nothing," says Dr Armstrong, "so cleansing to the bowels of children as calomel; and if it is well prepared, and exhibited in the above manner, it never disagrees, but generally is of great service. I find this by much the safest and most effectual method of curing the diarrhæa in children." Every succeeding writer on the diseases of children has confirmed this judgment. Our own experience coincides with it; and, largely and generally as we have employed calomel in the diseases of children, we have never witnessed any of those alarming or dangerous effects from it, with which the prejudices of Dr Trotter would alarm us. Surely Dr Trotter need not be told, that calomel is as often employed to restrain as to excite purging in children. In like manner, in some of the dyspeptic cases of adults, when the secretion of the bile is irregular, now interrupted, now flowing too abundantly, we have seen decided advantages from small and alterative doses of calomel. The best of remedies, however, may be abused.

"I resided a few years ago (says our author), in a naval sea-port, where I was often consulted for stomach and nervous complaints, by ladies, the wives and relatives of officers, and my other friends in the public service. Many of these females had been residents in warm climates. The great resemblance which the cases had to one another, excited no small degree of surprise at first, till I learned they had been all subjected to a similar mode of treatment. In short, they had been patients of a physician of extensive practice in the neighbourhood, who prescribed mercury for every disease. Most of these women, among whom were some of great mental and personal accomplishments, had been kept for months or weeks under the influence of the medicine; with their throats, mouths, and tongues so swoln and excoriated, and the teeth so loose, as to confine them to a diet of slops. Those who had no stomach complaints when they began this treatment, found them come on after it; and such as had been nervous and dyspeptic before, felt all their ailments aggravated. This physician, not satisfied with the milder preparations, made a common remedy of hydrar. mur.

"A practice, not unlike to what I have just related, made some noise in our navy during the late war. A physician on a foreign station took it into his head that all modern diseases originated from Syphilis. It was in vain that officers and seamen pleaded innocence: if they were unconscious of receiving infection themselves, they were told it must come from their parents, sometimes to many generations back. Few men could answer for their purity on these occasions: a mercurial course was therefore directed; not for days or weeks, but for years; for there was no safety but in continuing it at intervals through life. A medicine of the kind, employed on such terms, could not fail to do harm: some of the most unfortunate stomach affections which ever came under my care, owed their cause to this treatment; a few valuable men were brought to the grave by it, in the circle of my own acquaintance, where I suspected a scirrhous pylorus." P. 123-125.

The influence of nervous diseases on the character of nations, and on domestic happiness, the subject of the fourth chapter, is a sort of politico-economical rhapsody, intended, we suppose, for Dr Trotter's general readers, and dished up to their taste. But if the medical reader is yet unacquainted with the nervous temperament, here he will find new diagnostics; for example—

"Modern Britons have erected Martello towers, projected the inundation of Essex, and hoarded up the current gold coin, as tokens of being afraid of the French. These alarms are to be considered as so many symptoms of a nervous temperament appearing in our national character. Britain had no ships to oppose the landing of Julius Cæsar; but at this moment she has a navy capable of fighting the whole fleets of Europe united; yet she trembles at a flotilla of cock-boats. It is that puddle of corruption, the Stock Exchange; that Delphi of Plutus, where stock-brokers pay their vows, and expound prophecies, that has filled the nation with degenerate fears, apprehension, and hypochondriacism. Europe has been saved by the British navy from the fangs of French tyranny; yet shameful to be told, after the fleets of France have been annihilated, we are now to be assailed by three thousand wherries, manned with *blue devils**!" P. 147-148.

There, too, we may learn what is undoubtedly equally new and interesting, that Bonaparte is of the nervous temperament; that his bowels are wrung with spasms; that his biliary ducts partake of the commotion; nay, that all Europe partakes of the commotion, and sprawls and kicks in a fit, we suppose, of the falling sickness.

"The present ruler of a neighbouring people, appears to be a man answering to this description. He is said to be subject, at times, to the deepest hypochondriacal glooms; and, while under their influence, his temper exemplifies more of the demon than the human being. Jealous of his personal safety, even to timidity, because he is aware that his plans of ambition are to be effected by blood, and accomplished by perfidy, he knows that he cannot be beloved. Through slaughter and fraud he has waded to a throne: and his obtaining the sceptre, was the signal to shut the gates of mercy against his species. A stranger to every domestic enjoyment;

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* "*The gentlemen of the Stock Exchange*, as they denominate themselves, are projecting great things from the conquest of Buenos Ayres. Spain, humbled, degraded, pillaged by an imperial cut-throat, is almost blotted out of the map of Europe; which she owes to the gold and silver brought from the New World. Yet these *gentlemen* seem to entertain no fears for the like fate happening to Great Britain.—Such is the patriotism of money-lenders!"

joyment; unsusceptible of the tender passion; and aloof from all the temperate and soothing pleasures which sweeten the slumbers of a good man in power and prosperity, this arch-tyrant is said never to sleep two nights in the same bed, from the dread of assassination. When any sudden disaster befals his projects, without a single virtue to cheer reflection, he becomes his own tormentor: his bowels are wrung with spasms; the biliary ducts partake of the commotion; and a jaundiced hue of the eye, indicates to the spectator, the features of some devil that has usurped the human form. Under this sombre cast of countenance, his vindictive passions brood over crimes, and hatch plots, that he may find victims to glut his desire for blood. In such moods, he sends to the guillotine, incarcerates, or proscribes the devoted loyalists of France; anticipates, in their fate, the doom of Englishmen; and feels, in miniature, that gratification, which he longs to experience by the invasion of Great Britain. History tells us of bad men that were born with teeth in their jaws, and of others, whose hearts were found hairy; such relations are amiable, if they even arose from the folly of superstition, as they imply the hideousness and detestation of vice. And future ages may inquire with avidity for the physiological structure of that breast that was so superlatively steeled, and possessed passions so transcendently cruel, above what is recorded of the common destroyers of mankind." P. 159-161.

## V.

*Sull' Aneurisma, Riflessioni ed Osservazioni Anatomico-Chirurgiche.* Di ANTONIO SCARPA, P. Professore di Notomia, &c. Pavia, An. 1804. Fol. Atlant.

IN the year 1797, the Society of Medicine of Paris proposed several questions on the subject of aneurism, as a prize essay for the year 1798 *. At that time Professor Scarpa conceived that he had collected a sufficient number of facts and cases, to answer, in a satisfactory manner all, or at least the greater number, of these questions; but a variety of circumstances concurred in preventing the finishing of his essay in time to be presented to the Society. Considering afterwards that the cases and facts on which he rested his opinion with regard to the true nature of aneurism in general, were only shortly stated in his treatise; and that the operative part of external aneurism required a more ample discussion than the narrow limits of such a dissertation would allow, he formed the resolution of publishing the splendid work which is now before us.

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* Prix proposés par la Societé de Médecine de Paris dans sa premiere Séance publique, le 27th Prairiel, An. V. 15th Juin 1797.

It is divided into three parts; the first is entirely anatomical, the second contains the general and particular history of aneurism, and the third, the treatment, and some select cases.

It would be tedious to follow our author in his very minute description of the arteries; we shall content ourselves with mentioning some of the corollaries he has drawn with regard to the influence of the anastomoses.

In the inferior extremity, the anastomoses are naturally divided into two orders; the first are those of the arteries of the parietes of the thorax and abdomen, and the parts within the pelvis, with the common femoral artery, both above and below the crural arch; the second take place between the superficial femoral and the profunda, along the thigh and round the knee.

If the external iliac artery is obstructed in the space between the division of the common iliac and the crural arch, the blood may be conveyed into the femoral by the epigastric and abdominal arteries, and by means of the numerous communications with the pudic arteries. This has sometimes happened, though in an inverted sense, with regard to the epigastric vein, as in the subject dissected by Mr Cline. If the femoral artery is obstructed above its division, the blood may be derived into the profunda, by the various communications of the two circumflex arteries with the common pudic, the sciatic, the gluteal, and posterior iliac arteries. Several years ago, Dr Baillie, in the dissection of a full grown man, found the femoral artery obliterated above the profunda, without the circulation being interrupted, or the power of the limb weakened. Guattani, Gavina, and several other surgeons of note confirm this fact.

In the second order of anastomoses, the mode of communication varies according to the place where the artery is tied or obstructed. If it is tied a little above where it passes through the tendon of the great adductor muscle, the blood is conveyed into the branches of the profunda, by the large branch given off to the vastus internus muscle, which communicates with the great anastomotic branch. When the artery is tied higher up, the circulation is carried on by the numerous anastomoses of the circumflex and perforantes, with the inferior branches of the superficial femoral, and the articular arteries of the knee, with the recurrent and tibial artery. And if, in addition to these, we add the nutritious arteries, those of the periosteum, and the subcutaneous ramifications, the passage of the blood from the superficial femoral into the branches of the profunda, and the arteries of the leg, must be very much facilitated, in a case of obliteration or ligature of that artery.

The same remarks are applicable to the ramifications of the arteries of the superior extremity, which are also divided into two distinct orders; the first conveying the blood from the thoracic and cervical arteries, into the humeral when the axillary artery is obstructed; and the second, to the fore-arm and hand, when the humeral artery is tied or obliterated.

After these preliminary remarks on the various anastomoses, our author proceeds to treat of aneurism in general, and, in particular, of the aneurism at the curvature and in the trunk of the thoracic and ventral aorta. He begins by pointing out the fallacy of the common opinion, that aneurism is formed by a dilatation or distention of the arterial coats, preceded by congenital debility; and he endeavours to establish his own theory, that it is always the effect of rupture or erosion of the coats of the artery, allowing the blood to be effused into the contiguous cellular substance, which constitutes the aneurismal sac.

Although it is impossible to deny the existence of a certain degree of dilatation of the artery, previous to its rupture, our author does not allow that every aneurism is preceded or accompanied by such a dilatation, or that the proper coats of the artery are ever distended to such an enormous degree as to form the aneurismal sac. He is farther inclined to consider those polypous concretions, which have been sometimes found in the commencement of the aorta, and which excited so much discussion in the former century, as examples of aneurism formed by the previous rupture of the coats of the artery, and the stagnation of the arterial blood in a distinct sac, and not in the canal of the artery.

Morgagni pointed out the difference of these two affections of the commencement of the aorta, but he conceived them to be only varieties of the same disease, and describes the one as an example of aneurism occupying the whole circumference of the artery, the other as only affecting one side of the vessel. Our author differs from Morgagni, and proceeds to offer a great variety of observations to prove that there is only one species of aneurism always occasioned by the rupture of the proper coats of the artery, whether it is accompanied by a dilatation of the artery or not.

Although the Greek and Arabian physicians were not acquainted with internal aneurism, they very often speak of external aneurism, which they all define to be an extravasation of blood under the skin. Severinus and Selvaticus were both of opinion that aneurism was formed by the rupture or wound of the artery. Fernelius was the first who published the theory of the dilatation of the artery, as the immediate cause of aneurism; but, far from being the result of careful dissection, it will be found to be merely the produce of his own imagination, founded on hypotheses and false conjectures. Sennertus, Hildanus, Barbette, and several others rejected this theory, and were all convinced that both the internal and external aneurisms were formed by the rupture, and not by the dilatation of the internal coats of the artery. Our author also adopts this opinion, and proceeds to show the different relations of the proper coats of the artery to its cellular substance, and points out, by careful dissections, the share which these coats, and the cellular substance or any other membranes surrounding them, have in the formation of the aneurismal sac. A number of experiments, similar to those of Nicholls, are related to show, that in injecting air, or any fluid capable of coagulating, into an artery, the two internal coats are ruptured, and the external cellular membrane is raised in form of a tumour. In the great variety of cases which the author has had an opportunity of examining, and which most medical men (if we except Monro, Hazon, Palletta, and Maunoir), have considered to be examples of true aneurism, he has not met with a single one, in which there was not an evident rupture of the internal and muscular coats, which consequently could have no share in the formation of the aneurismal sac. It is a circumstance of considerable importance, with regard to this subject, that the aneurismal sac never occupies the whole circumference of the tube of the artery, but only includes a small portion of one side, to which it is united by a sort of constriction or neck, beyond which it immediately expands to a considerable size. And if the artery be opened lengthways, opposite to this neck, a sort of partition or diaphragm torn in the middle is observed, corresponding to the constriction externally, which marks the exact limits of the ruptured coats of the artery, and the sac of the aneurism. And farther, whether the aneurism be recent or of long standing, the opening from the artery into it is always small, and the sac is always covered by the same smooth cellular membrane which surrounds the artery in the sound state, covered in the thorax by the pleura, and in the abdomen by the peritoneum. Scarpa agrees with Lancisi, Morgagni, Haller, and other writers, in considering the ulceration or steatomatous degeneration of the internal coat, as much more frequently the cause of aneurism, than violent exertions of the whole body, or an increased impulse of the heart.

These morbid affections always begin in the internal coat of the artery, or in the space between it and the muscular coat. If an ulceration is formed in the internal coat, the blood oozes through between the fibres of the muscular coat in the form of an ecchymosis, as has been observed by Morgagni and Nicholls in the case of George the Second. Nicholls relates, that there was a small fissure on the internal surface of the aorta, through which a small quantity of blood had recently passed, forming an ecchymosis, and showing the true state of an incipient aneurism of the aorta, and confirmed a point of doctrine published by him, that the external or cellular coat of the aorta can support the impulse of the arterial blood without being ruptured, although there be a corrosion or laceration of the internal coat, which he calls ligamentous. This will always be found to be the case : for, when the rupture or corrosion of the aorta is small, the blood oozing insensibly through the muscular coat, stops under the external cellular covering, without raising it ; but as soon as the quantity of blood collected is capable of elevating this external cellular sheath of the artery, it is necessarily converted into a pulsating tumour and aneurismal sac.

From all that has been said, we may infer, 1. That aneurism is invariably caused by the rupture of the proper coats of the artery. 2. That the sac is never formed by the dilatation of the proper coats of the artery, but by the cellular sheath which the artery receives in common with the neighbouring parts, covered in the thorax by the pleura, and in the abdomen by the peritonæum. 3. Although the aorta is sometimes enlarged in diameter, this dilatation is not essential to constitute the disease ; and, 4. That the distinction of aneurism into true and spurious, is only the result of a false theory, since observation clearly shows, that there is only one form of this disease.

The arguments which prove the non-existence of aneurism in the aorta, from dilatation of its proper coats, may be urged more strongly against its occurrence in arteries of the second order, such as the popliteal, femoral, and brachial.

In prosecuting this discussion, our author proceeds to the examination of the various cases which are on record, and begins by the analysis of Parker's case, as related by Dr Donald Monro, which a great many surgeons have considered as an example of several true aneurisms occurring in the course of the same artery. In the careful dissection of these tumours, an extraneous substance was observed, resembling the matter of steatom, mixed with the fibres of the muscular coat, filling the interstices of the cellular substance which lines that coat ; the internal coat was also much thickened. Prof. Scarpa remarks, that these tumours, instead of being examples of true aneurism, as was conceived by Dr Don. Monro, were only *steatomatous thickenings* of the proper coats of the artery ; and that far from forming sacs or reservoirs for the blood, they rather constricted and diminished the natural size of the tube of the artery. Dr Monro, the father, has remarked,

marked, in another place, " that he had once observed the cavity of a large artery, almost blocked up by a steatomatous thickening of the internal coat, and that he had frequently observed purulent matter collected in it."

It is probable that a similar case had occurred to Guattani, although he does not seem to have been aware of its true nature; and Gavina states, that, in a case which he had taken for a true aneurism, the artery, instead of being dilated, was converted into a hard tumour, from the thickening of its coats, resembling a a piece of sponge dipped in wax. Palletta, a celebrated Venetian surgeon, mentions that, in the whole course of his practice, he had never met with any other kind of aneurism in the popliteal or femoral arteries, than that occasioned by a rupture of the proper coats of these arteries. If we examine with attention the numerous cases related by Guattani, Flajani, and some of those by Dr Monro and Mr Home, we can entertain no doubt of the aneurism, in all these cases, having been formed by a rupture of the artery; and although, in some of these cases, the artery was found enlarged longitudinally, it was invariably found to be ruptured at the place where the aneurism was situated. From all these facts, confirmed by his own experience, our author concludes, that the immediate cause of the popliteal and femoral, as well as of aortal aneurism, is the rupture or corrosion of the proper coats of the artery, occasioned by some violent effort, and, in general, conjoined with a congenital relaxation, or steatomatous degeneration, especially of the internal coat. He likewise demonstrates the insufficiency of the symptoms commonly considered as distinctive of the true and spurious aneurism, which, as well as his important cases, and observations with regard to the structure of the sac of the aneurism, we particularly recommend to the perusal of our readers.

In the numerous observations of aneurism in the bend of the arm, produced by the puncture of a lancet, no doubt, we would conceive, can exist with regard to the nature of the disease, or that it is formed by *effusion*. It appears, therefore, difficult to account for a contrary opinion having been entertained even by Molinelli, Guattani, and others, who, notwithstanding the frequent opportunities they must have had of examining such aneurisms, preoccupied by the false opinion that it was formed by the dilatation of the proper coats of the artery, in operating on such cases, dissected the aneurismal sac carefully from the neighbouring parts, as if it had been formed by the dilated proper coats of the artery. Dr Monro, the father, even was nearly deceived by this manner of performing the operation; but, on dividing the sac, which was formed by the aponeurosis of the biceps, he at once discovered the error into which he had almost been led, and the artery was distinctly seen at the bottom of the incision not at all dilated.

Some medical men conceived, that, whenever the lancet wounded only the external membranes of the artery, the internal coat protruded through the lips of the wound, and formed the aneurismal dilatation. Guattani compares this to the protrusion of the peritonæum in an hernial sac. But experience proves the contrary; for if part of the muscular coat of an artery be removed, leaving the internal entire, and air be then injected into the artery, the internal coat will be immediately ruptured, and no protrusions are formed; if the artery has been macerated, small vesicles indeed will protrude, but they break with the slightest increase of the force of the injection. Haller's experiments are likewise quite inconclusive. On the other hand, the experiments of Mr J. Hunter and Mr Home, which have been repeated by the author, and more recently in this country by Dr Jones, prove, in the most satisfactory manner, the difficulty, or rather the impossibility of producing an aneurism if the internal coat is left entire; from which we may conclude, that the aneurism at the bend of the arm from the puncture of a lancet, or that in the course of the humeral artery from a wound, is also occasioned by the solution of continuity of the coat of the artery, and, consequently, the effusion of blood into the surrounding cellular substance.

In the aneurism at the bend of the arm, the increase of the tumour varies according to the greater or less resistance opposed to the effusion of blood, by the aponeurosis and ligamentous bands covering the aneurismal sac. Prof. Scarpa has found, on examining the bend of the arm attentively, that it is the ligamentous web or expansion, called by some authors intermuscular ligament, which principally increases the resistance of the cellular substance.

The aneurism of the axillary artery is always diffuse, as it is only surrounded by a loose cellular substance, not supported by any ligamentous web. The aneurism is likewise diffuse when the humeral artery has been wounded laterally, so that the blood effused passes out of the space occupied by the above-mentioned ligamentous expansion.

In the aneurism at the bend of the arm it is the humeral artery which is wounded, except in those cases in which the artery divides high up in the arm.

There are very few examples of aneurism in the brachial artery from internal causes; and we rarely meet with the steatomatous earthy disorganization of the coats of that artery, similar to that which occurs in the femoral and popliteal arteries, and in the aorta. However, two cases of spontaneous aneurism of the brachial artery are mentioned by Dr Don. Monro, and Palletta; and our author relates the history of one which occured in the carotid artery. The smaller arteries, such as the temporal, auricular, occipital, and palmar arteries, are likewise subject to the disease.

It is generally admitted, as a fact, that a radical cure of aneurism cannot be obtained, without the obliteration of the canal of the artery, or the conversion of it into a solid ligamentous substance, which may be effected either by compression or by tying the artery.

In order to obtain a completely radical cure of aneurism, by means of compression, it is necessary that there be a certain degree of vitality in the proper coats of the artery, that the pressure be sufficient to keep them in firm contact, and excite in them the due degree of adhesive inflammation. It is, therefore, more likely to fail when the disease has been produced by internal causes, where a considerable portion of the artery is disorganized above the laceration or rupture, and not disposed to undergo the adhesive inflammation. Some surgeons think that the compression ought to be employed in every case of aneurism; but experience has shewn, that it proves injurious in all those which are of long standing, of a large size, painful and false, as they were formerly called; when the pressure is applied below the place of the injury in the artery; when, on account of the size and exquisite sensibility of the aneurism, and the depth of its situation, and the swelling of the contiguous parts, a sufficient degree of pressure cannot be employed to keep the sides of the artery in firm and steady contact; and, lastly, in all cases, where, from the history of the disease, we have reason to suppose, that it has arisen from a steatomatous or earthy degeneration of the artery. In cases the reverse of these just mentioned, compression has often effected a complete cure; of course it is a method which ought not to be entirely excluded from practice.

Surgery possesses a much more easy method of producing the obliteration of the canal, by the ligature of the artery. But in this, as in the method of effecting the cure by compression, it is of consequence to apply the ligature at some distance from the seat of the disease, as the morbid disorganization of the arterial coats renders them incapable of inflaming, and unsusceptible of adhesion. In every case, therefore, where the nature of the parts and other circumstances allow, we ought to apply the ligature at a distance from the disease, and leave the aneurismal sac untouched. In aneurisms, from a wound, we have not the same danger to fear, as the artery is sound above and below the injury,

injury. After an artery has been tied, it is observed, that the obliteration is not confined to the place to which the ligature is applied, but extends downwards as far as the first anastomosing branch. And it is a well known fact, that whenever the blood is interrupted in its course through a vessel, that vessel has a disposition to contract, and to be obliterated, and the blood immediately takes another channel, and continues its course by the neighbouring branches. When an artery is tied at a considerable distance above an aneurism, the blood which enters the branch of the artery below the ligature has not sufficient force to distend the sac, and is unable to overcome the resistance opposed to it by the coagulated blood contained in it; the blood, therefore, passes along the lower anastomoses, and leaves the trunk entirely, which continues to contract, and be obliterated as far as the root of the aneurismal sac. If, therefore, after the ligature of a large artery, such as the femoral, the pulsation continues in the aneurismal sac, we are not to ascribe that circumstance to the blood getting into it from the anastomosing vessels, but to the ligature not having been applied with a due degree of tightness.

"From what has been said, two important precepts relative to the cure of external aneurism may be deduced; in the first place, that the complete cure of this disease may be obtained by tying the artery in the vicinity of the wound or laceration in it, as well as by applying the ligature at a considerable distance above the place of the injury, and without making an incision into, or laying open the aneurismal sac. In the second place, that when we do not open the aneurismal sac, for the cure of this disease, from the resistance which the clots contained in the tumour oppose to the blood which endeavoured to enter the aneurismal sac, from above downwards, or from below upwards, the application of a ligature above the place of the rupture or wound in it, leaving the tumour untouched, renders it unnecessary for the surgeon to apply a second ligature below the place."

In internal aneurisms, we can only expect to afford a temporary relief, by frequent evacuations of blood, dipping the extremities in warm water, low diet, anodynes, and the like. In all cases where the tumour protrudes outwardly, we must abstain from all kind of pressure. In the last stage of the disease, we must leave off all emollient applications, and rather use cold stimulating remedies; but in all these cases the relief is merely temporary.

In the cure of popliteal aneurism, compression cannot be depended upon, except in cases where it has arisen from an external cause, and is not to be ascribed to any internal morbid degeneration of the proper coats of the artery; when we can press the two opposite sides of the lacerated artery against the posterior suface of the thigh-bone; and when the degree of pressure used is sufficient to excite adhesive inflammation in the coats of the artery, and convert it into a solid substance. Besides, that the combination of those circumstances is very rare, the surgeon will find many obstacles to prevent his applying a sufficient degree of pressure.

Anel was the first who performed the tying the brachial artery, without opening the aneurismal sac. In the year 1785, Mr John Hunter proposed and performed the operation of tying the femoral artery, without touching the sac; and there is every reason to believe, that Mr Hunter was not acquainted with what Anel had done in the bend of the arm.

> "Mr Hunter, therefore, in trying this new mode of cure for the popliteal aneurism, had no other guide than his own sublime genius, always active and unceasingly employed, so long as he lived, in extending the boundaries of the natural sciences, and of the arts useful to mankind, especially that of surgery. The happy event which followed in the first patient on whom he operated, and the other similar fortunate successes obtained by him, as also those which, in the sequel, occurred in the hands of other surgeons, proved the justice, as well as the great utility of the plan conceived for the cure of the popliteal aneurism; which discovery will form an eternal monument of glory to its author."

We pass over the detail of the operation, and subsequent treatment, which we recommend to the particular attention of our readers, and shall only insert his recapitulation of the different steps, to point out in what circumstances the author's method differs from that originally proposed by Mr Hunter.

> "The place of the incision, which I prefer, is in the upper third of the thigh, or a little higher than the place where Mr Hunter used to perform it, in order to avoid the necessity of removing too much from its position, or of turning back the sartorius muscle for bringing into view, and tying the superficial femoral artery below it. 2. The manner of insulating the artery from the cellular substance, with the point of the the finger, rather than with a cutting instrument, in order to prevent, in this way, the division of any collateral branch, and the insulating the artery only in that space which is required for the application of two ligatures. 3. The ligature, by means of two waxed threads, of convenient breadth, placed behind and round the artery, near to each other, with the interposition of a roll of linen, of a cylindrical form, between the artery and the knot. 4. The express omission of the ligature of *reserve*. 5. The giving the preference to the simple knot rather than to the double or surgeon's knot. 6. The unremitting attention during the subsequent treatment, that the lips of the wound do not approach too close; and still more, that they do not adhere together, before the ligatures and the roll of linen are expelled from the bottom of the wound, and till the bottom of the wound has risen nearly to a level with the integuments.

7. The timely incision or counter-opening in the case, although not of frequent occurrence, of an abscess forming in the vicinity of the knee, along the course of the superficial femoral artery, from the portion of cellular substance surrounding that artery having become mortified."

We are not, however, inclined to approve of the interposition of the roll of linen, although Prof. Scarpa relates several cases in which it has been practised with perfect success; and we are rather surprised, considering the manner in which he reasons on this subject, that he should have been induced to adopt such a practice. But it would be leading us too far to enter into any discussion on this point. We must, therefore, refer to the work of Dr Jones, and the remarks of Mr Veitch, inserted in a former number of this Journal.

Compression cannot be employed for the cure of the femoral aneurism, as the artery is not situated immediately upon a bone. In this case we can have no hesitation in giving the preference to the ligature; and the sooner the operation is performed after the appearance of the tumour, the more reason we have to expect it to be attended with success. As long as the aneurism remains circumscribed, from whatever cause it may have been produced, Mr Hunter's operation is the most certain and speedy method, and the least painful to the patient. But when the aneurism has been caused by a gunshot-wound, and has acquired suddenly a very great size, attended with excruciating pains, distention of the integuments, and violent fever, the author considers this mode of operating as too slow in its effects, and recommends the incision of the sac, and the ligature of the artery above and below the laceration, as we have no cause to apprehend any morbid state of the artery at the place of the injury. It is still more embarrassing when the aneurism is situated immediately below the crural arch; for, setting aside the possibility of the profunda being included in the rupture along with the superficial femoral artery, the straitness of the situation, and the short distance between the top of the tumour and the crural arch, prevent the surgeon laying bare and tying the artery properly, or he is under the necessity of including the profunda in the ligature, which ought always to be avoided if possible, as it renders the success of the operation more doubtful. It is a well known fact, that in a full grown subject, the common femoral divides into the *superficial* and *profunda*, or *anterior* and *posterior* femoral arteries, at an inch and an half, an inch and three quarters, very rarely two inches, and never more, below the crural arch. Suppose, then, that the aneurism is situated two inches below the crural arch, and as large as a hen's eggs, we must recollect, that the place of the rupture corresponds to the centre, or, as Mr Deschamps maintains, to the lower third of the tumour, the rupture in this case would be three inches below the crural arch; and supposing the greatest distance a full inch below the origin of the profunda. But as in this case there would be too little room for performing the operation conveniently, the author recommends an incision to be made in the sac, and the ligature to be applied above and below the artery, an assistant compressing the artery, as it passes out below the crural arch.

Prof. Scarpa has not met with any cases of aneurism situated above the origin of the profunda; but, from the observations of Guattani, Gavina, Clarke, and Mayer, he conceives it probable that the life of the patient may be preserved, even after the ligature of the common femoral artery. He directs that the surgeon should divide, with one stroke of a sharp pointed bistoury, the sac from below upwards, and, passing his left hand quickly to the bottom of the sac, lay hold of the artery with his forefinger and thumb; with his right hand he will pass an eyed needle, armed with a ligature, which an assistant will tie above the wound in the artery; the bleeding being now stopped, the surgeon will have sufficient time to apply a second below the wound, and dress the wound in the usual way. In this case, very much depends on the dexterity and presence of mind of the operator; and although, in general, he will not find much difficulty in laying hold of the artery, from its being in an insulated state, as Severinus has remarked, and as the nerve does not lie near, nevertheless, we are inclined to think that the mode adopted by Mr Abernethy, as related in No. 9. of this Journal, would, at least in an emaciated patient, be preferable.

From the remarks stated in this chapter, the author concludes, 1. That compression never can be employed for the cure of femoral aneurism in whatever part of the thigh it is situated. 2. That the aneurism of the lower third, middle, or top of the thigh, at the distance of four inches from the crural arch, if it is circumscribed, may be cured according to Mr Hunter's method. 3. That when the aneurism is of a large size, diffuse, and threatening inflammation and gangrene, the best plan to follow is the incision of the sac, the evacuation of the clotted blood, and the ligature of the artery above and below the laceration or wound. 4. That, in the aneurism at the top of the thigh, we have a steady rule, according to which we may fix the place of the rupture in the artery. 5. That, when the rupture affects the artery so high up as to include the origin of the profunda also, so that the ligature falls upon the common femoral artery, the surgeon ought not, therefore, if all the other circumstances are favourable, to despair of obtaining a cure.

As long as the aneurism in the bend of the arm, occasioned by the prick of a lancet, remains circumscribed, without inflammation of the skin covering it, and in young and slender persons, it may be radically cured by means of compression; and the best mode of applying it in this case, is that described by Genga in his *Anatomia Chirurgica.*

After a few days trial, we soon ascertain whether it is likely to succeed or not, and we ought to endeavour to assist its effect by the use of venesection and low diet, in order to moderate the impetus of the circulation. The patient must continue the bandage for several months after the cure is supposed to be complete, and he must avoid making any violent exertions with his arm.

When compression cannot be employed, or is contraindicated, the surgeon ought to proceed immediately to the operation of the ligature of the artery, either according to Anel's method, by tying the artery above the aneurism, leaving it untouched; or by making an incision into the aneurismal sac, and applying a ligature above and below the injury.

The same method of operating is to be adopted in cases of aneurism of the humeral artery, caused by the prick of a sword or bayonet, or by fire-arms. But it is proper to remark, that it is often difficult to discover the wound in the artery, if it has been made laterally and posteriorly, and, consequently, not easy to ascertain where to apply the ligature. In this case, we would recommend carrying the incision below the biceps muscle, and separating it on the posterior part, to pass a probe into the original wound, and then cut upon it if it could be felt on the inner side of the arm, and lay bare the artery. If the place of the wound could not be discovered, a ligature might be passed round the artery and tied; if it was applied below the wound, the blood would immediately rush out, and would direct us where to apply the second ligature; if no blood was discharged, it would indicate that the ligature had been applied above the wound; and it is a matter of little consequence, whether a second ligature is applied below the wound or not.

In cases of aneurism of the axillary artery above the origin of the profunda humeri, we may expect a similar success to that which has been met with in the cases where the common femoral artery has been tied. In cases of axillary aneurism of very great size, and threatening to burst, or where, from the long delay on the part of the surgeon, the arm and hand are in a state approaching to gangrene, or when the disease is complicated with fracture of the head of the humerus, the author recommends the disarticulation of the humerus from the scapula, in a similar manner as mentioned in speaking of the popliteal aneurism.

In aneurisms of the smaller arteries, as the temporal, occipital, and the like, the cure is easily obtained, either by dividing the aneurismal sac, and tying the artery drawn out with the tenaculum, or by a ligature passed round it by means of the aneurismal needle; or, if the mouth of the artery has been bruised, or if several arteries open into the sac, pressure may be applied to them by means of a piece of dry sponge, secured with compresses, and a bandage adapted to the situation of the tumour. In aneurisms of the carotid artery, where the tumour is situated in the upper part of the neck, there can be no doubt that the ligature may be applied with safety below the disease, without any interruption to the functions of the brain, as is completely proved by the case related by Petit of the advocate Vieillard, who was cured spontaneously of an aneurism in the bifurcation of the right carotid, by the obliteration of that artery from its origin to the seat of the tumour.

The aneurism at the bend of the arm may be readily distinguished from the aneurismal varix. In the former, the tumour, from being circumscribed, sometimes becomes diffused, and increases to a large size, threatening inflammation and gangrene of the part. In the latter, the tumour is always circumscribed, and extends to a certain distance above and below the injury; it increases slowly, and is seldom accompanied by any great pain. Both tumours have a pulsation similar to the arteries; but in the aneurismal varix, it is accompanied with a tremulous motion, and a sort of jarring, hissing noise, as if the blood were passing out by a very small orifice. The pulse at the wrist beats more feebly, and the brachial artery, above the seat of the disease, is observed to pulsate more strongly than in the sound arm.

The seat of the aneurismal varix is, in general, in the basilic vein, which is enlarged, forming an oblong tumour with the cicatrix of the bleeding in the centre. It seldom extends more than two inches above and below the injury, and then the vein gradually regains its natural size.

Dr W. Hunter is undoubtedly the first who gave an accurate description of this disease, although Prof. Scarpa is disposed to claim a share of the merit to his countryman Guattani, who, nearly about the same time, published the history of two cases of aneurismal varix, with regard to the nature of which there can be no doubt.

In the cure of the aneurismal varix, as long as it remains simple, the patient has only to abstain from using his arm, and from keeping it as much as possible in a depending posture.

Prof. Scarpa, Dr Hunter, Mr B. Bell, Pott, and Garneri, mention cases where the disease has remained stationary for 14, 20, and 35 years. Several cases are related by Brambilla, Guattani, and Monteggia, of a cure having been obtained by means of compression. But as this method of cure, if it does not succeed, exposes the patient to the danger of a complication of the disease with an aneurism, it ought not to be employed except in recent cases, where the tumour is small, and in slender patients, at an early period of life, and where both of the vessels can be compressed accurately against the bone. If the disease is complicated with an aneurism which threatens to become diffuse, we are under the necessity of having recourse to an operation which may be performed according to Ancl's method, as in the case of simple aneurism. But if the aneurism has become diffuse, the incision of the sac ought to be preferred; and this subject is more fully illustrated by the case related by Mr Park in the 4th vol. of the Med. Facts and Observ.

Prof. Scarpa has illustrated his doctrines by ten magnificent plates, of the size of life. Seven of these exhibit minutely the anastomising branches of the arteries of the superior and inferior extremities, and the remainder to explain his opinion of the nature of aneurism. In praise of these, it would be difficult to say too much. They surpass, indeed, if possible, the preceding works of the Anderlonis.

We have thus endeavoured to give such an account of this splendid work as our limits would permit, and its importance required. For us to say any thing in praise of what comes from Scarpa as his surgical *chef d'oeuvre*, would be superfluous; but we must not conceal its faults. Accurate and beautiful as the plates are, they have one very bad effect, they diminish the utility of the work, by confining it to the libraries of the rich; and the size of the page renders it impossible to read the text without a frame to support the volume. Even for those few who may be fortunate enough to get a copy of the original, an accurate translation of it, in an octavo form, would be highly desirable; and when we consider that, by inserting only those plates which are absolutely necessary, it might be published at a moderate price, we hope that it will soon be found in the library of every surgeon, as few objects of his profession are more important than aneurism, and certainly none of them has been treated of in a more masterly manner, whether we regard the present work in a practical or scientific point of view.

# PART III.

## MEDICAL INTELLIGENCE.

On the 24th of June, the Senatus Academicus of Edinburgh conferred the degree of Doctor in Medicine on the following Gentlemen, after having gone through the appointed examinations, and publicly defended their respective inaugural dissertations:

### *From* ENGLAND.

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|---|---|
| William Henry Bonsfield, | *De Hydrocephalo Acuto.* |
| Edward Parker Charlesworth, | *De Scarlatina.* |
| Henry Fearon, | *De Dysenteria.* |
| Robert Gooch, | *De Rachitide.* |
| Joshua Ireland, | *De Mania.* |
| Samuel Litton, | *De Calculo.* |
| Albert Parry Moss, | *De Apoplexia.* |
| John M. B. Pigot, | *De Morbis Ebriosorum.* |
| William Shearman, | *De Pneumonia.* |
| Henry Snow, | *De Rheumatismo Acuto.* |
| John Thomson, | *De Chorea.* |
| Baldwin Wake, | *De Typhi Remediis.* |

### *From* IRELAND.

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| David Barry, | *De Phlegmasia dolente Puerperarum.* |
| Joseph Brownlow, | *De Sanguinis Circulatione.* |
| Albert H. Callanan, | *De Ascite.* |
| William Hudson, | *De Rheumatismo Acuto.* |
| Daniel Linehan, | *De Respiratione.* |
| Henry M'Creery, | *De Pneumonia.* |
| Robert Nixon, | *De Voce Humana.* |
| Stephen Laurence O'Brien, | *De Asthmate Spasmodico.* |
| Eugene O'Neill, | *De Hernia Inguinali.* |
| John Pigot, | *De Principio Vitali.* |
| Samuel Robinson, | *De Pneumonia.* |
| William Stott, | *De Hepatide Acuta.* |

### *From* JAMAICA.

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|---|---|
| Charles Farquharson, | *De Phthisi Pulmonali.* |

*From* PORTUGAL.

| | |
|---|---|
| Francis De Souza, | *De Cataracta.* |

*From* ST KITTS.

| | |
|---|---|
| Benjamin Hardtman, | *De Aure Humana.* |

*From* SCOTLAND.

| | |
|---|---|
| Joshua Henry Davidson, | *De Cynanche Tracheali.* |
| Robert Tytler, | *De Oxygenio.* |

And, on the 12th of September, the same honour was conferred on the following Gentlemen :—

*From* BOHEMIA.

| | |
|---|---|
| Joseph Schæffer, | *De Rheumatismo.* |

*From* ENGLAND.

| | |
|---|---|
| Francis Sacheverel Darwin | *De Hydrothorace.* |
| Richard Pickering, | *De Cynanche Maligna.* |
| Joseph Arnold, | *De Hydrothorace.* |
| William Henry, | *De Acido Urico et Morbis a nimia ejus secretione.* |

*From* IRELAND.

| | |
|---|---|
| Joanne Metge Bartley, | *De Phthisi Pulmonali.* |
| Henry Huey Tyler, | *De Exercitatione.* |
| Thomas Lee, | *De Apoplexia Hydrocephalica.* |
| Josua Clibborn, | *De Purgantium usu in Febribus.* |

*From* JAMAICA.

| | |
|---|---|
| Hinton Spalding, | *De Asthmate Spasmodico.* |

*From* SCOTLAND.

| | |
|---|---|
| Donald Mackinnon, | *De Epilepsia.* |
| Alexander Macaulay, | *De Apoplexia.* |
| Peter Fair, | *De Epilepsia.* |
| R. Richardson, | *De Veneno Syphilitico.* |

## *Medical Lectures in the University of* EDINBURGH.

| | | | |
|---|---|---|---|
| Anatomy and Surgery | Wednesday, Oct. 28. | 1 | Drs Monro. |
| Chemistry & Chemical Pharmacy | | 10 | Dr Hope. |
| Dietetics, Materia Medica, and Pharmacy, - - - - - - - | | 8 | Dr James Home. |
| Theory of Physic, - - - - | | 11 | Dr Duncan, sen. |
| Practice of Physic - - - - | | 9 | Dr Gregory. |
| Theory and Practice of Midwifery | | 3 | Dr Ja. Hamilton. |
| Military Surgery - - - - | Friday, Nov. 20. 7 in the evening. | | Mr Thomson. |

A Course of Practical Anatomy will be given, under the superintendance of Dr Monro, jun. and Mr Fyffe.

Clinical Lectures on the Cases of Patients in the Royal Infirmary, by Dr Rutherford and Dr Home—the first lecture by Dr Home, on Tuesday, November 10, at 4 o'clock afternoon.

Clinical Surgery by Mr Russell—the first lecture on Monday Nov. 2, at 5 P. M.

During the Summer session, lectures will be given on the following branches of education :—

Botany, by Dr Rutherford.
Midwifery, by Dr Hamilton.
Clinical Lectures on Medicine, by Dr Duncan, sen.
————— on Surgery, by Mr Russell.
Natural History, by Mr Jameson.
Medical Jurisprudence, by Dr Duncan, jun.
Morbid Anatomy, by Dr Monro, jun.

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## *Medical Lectures in the University of* GLASGOW.

| | | |
|---|---|---|
| Dietetics, Materia Medica, and Pharmacy, | Tuesday, Nov. 3d, at 10, | Dr Millar, Lecturer. |
| Midwifery, - - - - | At 11, | Mr Towers, Lect. |
| Theory and Practice of Physic, | At 12, | Dr Freer, Professor. |
| Anatomy and Surgery, | At 2, afternoon, | Dr Jeffray, Prof. |
| Chemistry, and the Arts connected with it. | At 7, afternoon, | Dr Cleghorn, Lecturer. |
| Botany, - - - - - | May 1808. | Dr Thos. Brown, for Dr Jeffray. |

Clinical Lectures on the cases of Patients in the Royal Infirmary. —The first Lecture on Tuesday evening the 10th November, at six o'clock.

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## *Sketch of the Life and Doctrines of the late Dr* JOHN BROWN *of Edinburgh. From the German Journals.*

John Brown, better known on the Continent by the name of Johannes Bruno, was born of poor parents in the neighbourhood of Glasgow. He was, in early life, bound apprentice to a weaver; but having discovered a capacity and love of learning, he became a poor scholar with a view to the church; and, after having received as much instruction as the parish school could afford him, he went to complete his education at Edinburgh.

In this great resort of medical students, there are numbers from England, Ireland, and America, who come very imperfectly educated, particularly in the Latin language. Mr Brown, who had cultivated this language with intense application, and acquired a facility in writing and speaking it, maintained himself by taking the students of this description under his tuition, and assisting them in their exercises for obtaining degrees. These operations are known, in the cant language of the British universities, by the terms of *grinding* and *cramming*. And as he had a peculiar vein of facetious humour, and a festive and jovial disposition, he became very popular among the young men.

By such employment, he could not fail in time to learn a good deal of the speculative part of medicine, and he at last adopted it as a profession; but without those advantages of practice and experience which those enjoy who embark in it regularly and at the usual time of life.

Having had a quarrel with the celebrated Dr Cullen, who was said to have discouraged him in his views of aspiring to a chair in the University, he set up a new system of physic in opposition to him, and publicly taught it in a course of lectures. The leading principle of his system was, that life consists in excitement, and that disease consists either in an excess or defect of this, but in nine cases out of ten in the defect of it, so that nearly the whole treatment of diseases ought to consist in maintaining excitement by means of stimulating remedies, taken either from the shop, the cellar, or the kitchen. This system is therefore called with us *Das System Erregord*, the exciting system. His acquaintance and connexion with a number of young men, his private pupils, who were personally attached to him, together with the confidence and boldness with which he maintained his novel doctrines, soon procured him a considerable number of auditors, and zealous partizans.

But what is most curious and interesting to those who study the history, and contemplate philosophically the progress and fluctuation of human opinions, is the rapid and extensive spread of these doctrines all over Europe. The heads of his lectures having been written in Latin, were conveyed to the different schools of physic, where they made many proselytes, and were warmly adopted by the young and sanguine, so that there came to be a party or sect in all the universities, distinguished by the title of Brunonians. His name became celebrated in France, Spain, and Italy, even in Poland and Russia, but, above all, in Germany, where we hailed him as our medical Luther; and, in the university of Goettingen, the students carried their dissensions so far, that, like some of the scholastic sects in the 13th century, they came to blows, and a military force was called in to quell the disturbance.

We are told that Dr Brown, from some causes of disgust, chiefly from being threatened with a legal prosecution by the family of a gentleman who, they alleged, died under his care, in consequence of being treated according to his peculiar modes of practice, left Edinburgh, and settled in London. It is mentioned as a striking instance of the great zeal and attachment of his pupils, that * one of them, at his own expence, conducted from Edinburgh to London, Dr Brown's wife and children, whom he had left behind him, either from haste, or for want of the means of conveying them. He attempted to give lectures in the British metropolis; but having entirely failed in this, as well as in practice, he gave way to his habitual propensity to intoxication, and soon died in extreme poverty.

Dr Brown's system seems to have owed its success chiefly to the following circumstances. First, to that novelty which is so attractive to young minds. Next, as it professes to teach the practice of physic by the short road of hypothetical theory, the natural indolence of the mind is thereby flattered, the painful and laborious exercise of observation and experience, generally deemed necessary in this difficult art, being dispensed with. Thirdly, this system has owed its currency to its flattering, and coinciding with, some of the most favourite prepossessions of the shallow and illiterate part of the community, which, in so far at least, as regards medical knowledge, constitutes a great majority, not only of the vulgar, but of all ranks, out of the profession. It is a general error with these to believe, that powerful cordials and strong nourishment are the most natural support of life, in all manner of sickness as well as in health, and obsequious practitioners find their account in humouring these popular prejudices. It is obvious, from these considerations, how this system must, in various ways, tend to corrupt the practice of physic. Lastly, many of the most correct physiologists, and most temperate practitioners, are disposed to admit the truth of his doctrines under due limitations, and only find fault with the exaggerated, overstrained, and indiscriminate application of them. However true the doctrine of excitement may be, it never can be viewed by those who entertain comprehensive views of the animal economy, but as a partial and subordinate principle in accounting for the general phenomena of the living body, whether in a healthy or morbid state. The complicated play of so many organs and functions

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* We believe this gentleman is now settled as a physician at St Neots.

functions can never be reduced to one principle; and, allowing that excitement is the only principle deserving of consideration, it still remains to be proved, that its defect is a more fertile source of disorder than its excess. This system has also received countenance, from its coinciding with the method of cure which has been long established in latter stages of low fevers, in which the most judicious physicians have long been in the practice of administering vinous and other cordials freely and successfully. Certain members of the profession, and still more, those who do not belong to it, struck with the beneficial effects of this treatment, and misled by a false analogy, have conceived, that it ought to be extended indiscriminately to cases of a totally different, and even opposite nature, in which a practice the reverse of this could alone succeed.

After all, it cannot be denied, that Dr Brown possessed considerable ingenuity, and no small share of acuteness; for allowing that a great part of his system is erroneous and fallacious, and may have proved injurious to society, he was no ordinary man, who, in an enlightened age, could command the suffrages of so large a party in a learned profession.

## *Quarterly Report of Diseases treated at the* PUBLIC DISPENSARY *(near Carey-Street), London, from* 31*st May to* 31*st August* 1807.

### *ACUTE DISEASES.*

| | No. of Cases. | | No. of Cases. |
|---|---|---|---|
| Typhus | 1 | Peripneumonia notha | 1 |
| Synochus | 41 | Rheumatismus acutus | 8 |
| Tertiana | 2 | Arthritis rheumatica | 7 |
| Quartana | 1 | Podagra | 2 |
| Cynanche tonsillaris | 10 | Dysenteria | 9 |
| ———— parotidæa | 1 | Cholera | 16 |
| Scarlatina anginosa | 5 | Enteritis | 2 |
| Rubeola | 5 | Hepatitis | 1 |
| Urticaria | 2 | Febris infantum | 10 |
| Erysipelas | 2 | Hydrocephalus acutus | 1 |
| Herpes | 1 | Apoplexia | 1 |
| Catarrhus | 34 | Pertussis | 6 |
| Pneumonia | 9 | Abortus | 1 |

### *CHRONIC DISEASES.*

| | No. of Cases. | | No. of Cases. |
|---|---|---|---|
| Cephalæa | 13 | Catarrhus chronicus | 23 |
| Hemicrania | 2 | Palpitatio | 1 |
| Vertigo | 3 | Dyspepsia | 11 |
| Dyspnœa trachealis | 1 | Gastrodynia | 23 |

Pyrosis

*Chronic Diseases continued.*

| | No. of Cases. | | No. of Cases. |
|---|---|---|---|
| Pyrosis | 3 | Phthisis et hæmoptysis | 23 |
| Vomitus biliosus | 2 | Hectica adolescentium | 1 |
| Icterus | 1 | Dysuria | 1 |
| Dolor hepatis | 1 | Hæmaturia | 1 |
| Hæmatemesis | 1 | Nephralgia | 14 |
| Constipatio | 2 | Scirrhus uteri | 4 |
| Diarrhœa | 15 | Dolor | 2 |
| Enterodynia | 16 | Menorrhagia | 11 |
| Colica | 1 | Amenorrhœa | 18 |
| —— pictonum | 1 | Leucorrhœa | 5 |
| Tænia | 1 | Ascites | 6 |
| Ascarides | 5 | Hydrothorax | 3 |
| Marasmus | 3 | Anasarca | 3 |
| Asthenia | 36 | Hydrops totius corporis | 3 |
| Melancholia | 1 | Scrofula | 1 |
| Hysteria | 3 | Scabies | 3 |
| Epilepsia | 4 | Lichen | 2 |
| Paralysis | 6 | Psoriasis | 6 |
| Lumbago et sciatica | 5 | Impetigo | 7 |
| Pleurodyne | 3 | Erythema | 1 |
| Rheumatismus chronicus | 23 | Prurigo | 1 |

The summmer has been remarkably dry and warm. From June the 6th to July 30th, there was no rain, and during the remainder of the period, there have been two or three heavy showers. The thermometer was generally near 80° at its maximum, during July and August; and once as high as 88°. The winds were variable, but prevailing, on the whole, from the west and south-west.

The principal observation which suggests itself, on comparing the preceding list of diseases, with those enumerated in the report for the three months of spring, is, that the disorders of the lungs are considerably less numerous, while those of the alimentary canal occupy a larger share of the column. With the latter, we must also include the cases of synochus or bilious fever of summer, which appears to originate in, or to be intimately connected with, a morbid condition of the canal, and of the biliary secretion. In the month of June, these fevers were obstinate; the symptoms continued almost without variation for ten days or a fortnight; and the convalescence was slow. The heat of the skin was great, and the patients complained much of pain of the head, which was aggravated by the least admission of light to the eyes; but no delirium occurred. The appetite was extremely reduced; but the tongue remained white, or with a cream-coloured tinge, and generally moist. None of the cases teminated fatally. Lately, synochus has been less frequent, very mild in its symptoms, and short in its duration.

It may be remarked, that no case of cholera was observed, till near the end of July; and 12 of those, in the list, occurred within the present month: nearly the whole number of instances of diarrhœa were likewise registered during the month of August. This may probably be owing to the occasional rains which have occurred on and since the 30th of July; since rains in the course of a hot season have frequently been found to multiply cases of cholera. Within the same period, all the cases of inflammation of the throat have appeared; probably originating in the same cause.

The hot weather has contributed greatly to the increase of nervous disorders, which are included under the term asthenia. The symptoms of which patients under this state complain, are chiefly, great langour of the whole frame, accompanied with pains of the back and limbs, resembling those arising from fatigue; depression of spirits; a sensation of faintness, or "sinking," as they usually term it, accompanied with a fluttering in the region of the stomach; vertigo, and general tremors of the limbs;—frequent cold sweats; and flatulence, heartburn, and other occasional symptoms of dyspepsia. The pulse is feeble, small, and increased in frequency. These symptoms most commonly occur in middle-aged women. In addition to the ordinary causes, such as impure air, sedentary life, the fatigues and anxieties of a family, insufficient nourishment, &c. the hot weather contributes greatly to induce the asthenia state, especially in the close and dirty apartments of the poor. Their unventilated rooms are heated by a burning sun, in addition to a fire for the family purposes; so that no one, who has not visited them, can conceive the stifling situation, in which the poor toil through a hot season in London; general tonics and volatile medicines conduce to relieve the symptoms.

*August* 31. THOS. BATEMAN.

ST GEORGE'S HOSPITAL, *and Great George Street, Hanover Square.*—In the first week of October will commence a course of Lectures on the Practice of Physic, Therapeutics, and Chemistry, in the Lecture Room, No. 9, Great George Street, Hanover Square (removed from Leicester Square), at the usual morning hours, viz. the medical lectures at eight, and the chemical at a quarter after nine o'clock; by GEORGE PEARSON, M. D. F. R. S. senior physician of St George's Hospital, Fellow of the College of Physicians, &c. A register is kept of Dr Pearson's Cases in St George's Hospital, and an account is given of them every Saturday morning, at a Clinical lecture, at nine o'clock.

Dr JAMESON, resident Physician at Cheltenham, is preparing for the press a new edition of his Treatise on Cheltenham Waters. Mr WISHART, Fellow of the Royal College of Surgeons Edinburgh, has in the press a Translation of Scarpa's classical work on Aneurism, with notes.

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## TO CORRESPONDENTS.

The communications of Dr WRIGHT, Dr CLARK, Dr ALLEY, Mr SODEN, Mr MACHELL, and W. F. did not reach us in time for publication in the present number. The newspaper extracts concerning the disputes of Dr DANCER, do not suit the plan of this Journal.

*** Communications may be addressed to the Editors, to the care of Messrs CONSTABLE & Co. Edinburgh, Mr MURRAY, Fleet-Street, London, and Messrs GILBERT & HODGES, Dublin.

## ERRATA.

Page 312, line 24, for 1757, read 1751.
Page 474, line 39, for *gives*, read *given.*

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